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In the Supreme Court of the United States

OCTOBER TERM, 1974

UNITED STATES OF AMERICA,
Plaintiff,

v.

STATE OF LOUISIANA, ET AL.,
Defendants.

REPLY BRIEF OF THE STATE OF LOUISIANA IN OPPOSITION TO THE EXCEPTIONS OF THE UNITED STATES TO THE REPORT OF THE SPECIAL MASTER

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SUMMARY

1. In response to United States' Exception No. 1, Louisiana shows that the challenged findings on juridical bay questions at East Bay (except area measurement questions) were grounded in a correct understanding of the legal criteria to be applied. The findings to which the government takes exceptions are in reality findings of fact and there is substantial evidence in the record which shows those findings are clearly correct.

2. In response to United States' Exception No. 2, pertaining to cartographic questions at Pass du Bois, Louisiana refers to evidence reviewed in other arguments, to show that the Special Master's findings of fact at Pass du Bois were supported by substantial evidence and were clearly correct, except to the extent challenged by Louisiana Exception No. 5, which includes the point that the land forms found by the Special Master to have existed until December 6, 1969 should be recognized to the present.

3. In response to United States' Exception No. 3, Louisiana shows that the findings of the Special Master as to Ascension Bay are clearly correct and based, among other correct reasons, upon factual findings as to the comparability of Ascension Bay facts to the facts of other recognized bays. Substantial evidence is shown to have supported those findings.

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PRELIMINARY STATEMENT

Louisiana's reply brief will respond to the three exceptions taken by the United States to the Report of the Special Master and to the United States' argument in support of the exceptions. Since the United States did not discuss Louisiana's historical bay claims, including the Special Master's factual findings from the undisputed evidence introduced by Louisiana in support of such claims, and the factual findings on Louisiana's juridical claim in Caillou Bay, it is assumed these issues will be discussed by the United States in its reply brief which may require further response by Louisiana on these issues, although Louisiana, in its original memorandum, attempted to cover fully most of the issues before the Court.

UNITED STATES EXCEPTION NO. 1 (EAST BAY)

United States Exception No. 1 relates to two alternative juridical bay claims within East Bay. The government attacks the findings recognizing that Louisiana's Lines C and D each enclose a bay, with all bay requisites satisfied.[1] Isolated discussion of the alternative claims tends to confuse an understanding of the total East Bay controversy. We therefore orient this exception in the light of other East Bay issues.

Louisiana's historic bay claim, discussed in the Louisiana Brief, at 8, *et seq.*, extends from the extremity of the South Pass mudlump island to the tip of the Southwest Pass jetty. This historic bay line[2] is more outward than any of the East Bay juridical bay claims. The juridical bay claims are alternative. They will be moot if the Court accepts the more outward historic bay claim. Thus, United States Exception No. 1 need not be considered if the Court accepts Louisiana's historic bay arguments.

Similarly, if more outward Louisiana juridical bay claims are accepted by the Court, there is no necessity for the Court to determine issues related to more inward alternative juridical claims. Thus, if Line A

[1] Line C was approved by the Master until the December 6, 1969 chart revision removing its headland known as Cowhorn Island. Line D was recognized by the Master as the next more inward closing line with identifiable headlands which satisfies all bay requisites after December 6, 1969. Report, at 35.

[2] From X = 2,697,850, Y = 117,200 to X = 2,607,180, Y = 91,445.

treated in Louisiana's Exception 3, discussed in Louisiana Brief, at 67, *et seq.*, is accepted by the Court, then various technical bay issues related to Lines B, B', C, C', and D need not be considered. See Louisiana Brief, at 67-115, which treats each of the alternative juridical bay claims in order, proceeding generally from the more outward juridical claims to the more inward.

No significant[3] issue of law exists in East Bay,

[3] Paradoxically, an error of law, on the need for "clearly" identifiable headlands at East Bay, strengthens the Special Master's findings on the identifiability of East Bay headlands. The issue it treats does not affect the results of the Report at East Bay, but is highly significant for the Court's consideration of Louisiana's Exception No. 4, discussed in the Louisiana Brief, at 116-143. Reference is made to the Master's understanding that he had to find "*clearly* identifiable headlands." (Emphasis added.) Report, at 28. This contrasts with the lesser requirement of "identifiable headlands" of this Court, 394 U.S. 11, at 54. The addition of "clearly" to the Court requirement of "identifiable headlands" in the Louisiana case is inconsistent with the decree of this Court in the California case, 382 U.S. 448, at 451, *quoted*, Report, at 28-29. That decree makes plain that there is no requirement for a pronounced or clearly identifiable headland since it provided a system for identifying headlands that are *not* pronounced. The rules are the same for all states. 394 U. S. 11, at 34.

On the matter of islands as headlands, the Louisiana Boundary Case does not require that they be "clearly" part of the mainland. That opinion uses less stringent, more flexible standards, as factors for ascertaining headlands, such as whether an island headland is "realistically" part of the mainland, not whether it is "clearly" part of the mainland. In the East Bay context, the Special Master revealed the strictness of the test he was in fact requiring for other island headlands. This explains his conversion of flexible "factors" into a rigid, cumulative test on island assimilation. See Louisiana Brief, at 119-122.

other than the question of the correct method of area measurement for applying the semicircle test.[4] In the proceedings before the Special Master and now before this Court, Louisiana accepted the 1969 ruling that a bay must be a well-marked indentation with identifiable headlands that enclose landlocked waters. 394 U.S. 11, at 54. Louisiana's effort focused on developing the record to show the required legal criteria (in addition to the semicircle test) were in fact satisfied. The Master found that the record amply proved the additional requirements of the Court were in fact satisfied at East Bay for Lines A, B, C, and D.[5]

The United States' Memorandum incorrectly proceeds as though the controversy is about the Court's rulings at 394 U.S. 11, at 54. It uses this reasoning to urge the Court to rely solely on its analysis of an inadequate small-scale drawing, instead of the extensive evaluation and appraisal of technical testimony by the Special Master.

In response to the federal arguments on East Bay, we shall do three things. First, we shall point out that contrary to the implication of the government's argu-

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[4] Semicircle test area measurement questions affect only Lines A and B. All other alternative lines are conceded to satisfy the semicircle test under the restrictive legal test for water area measurement adopted by the Special Master. Lines B′ and C′ are subject to headland questions treated in Louisiana's Brief, at 94-102.

[5] Except for semicircle measurements as to Lines A and B, using the restricted area measurement legal test of the Special Master which is justified neither by the Convention nor by the 1969 opinion of this Court.

ment, the Master did in fact recognize that more was required than satisfaction of the semicircle test and did in fact find that the additional requisites of Article 7 as interpreted by this Court are proved by the record. Secondly, we shall demonstrate that a mere small-scale drawing is utterly inadequate to consider in isolation. Rather, the very evidence and technical details which were considered by the Master in determining whether the Court's requisites were satisfied, are the proper bases of judgment. Thirdly, we shall treat that evidence the government would have the Court ignore.

The Special Master Made Findings as Required by the Court that each Alternative East Bay Claim had "Identifiable Headlands," was "Well-Marked," and Enclosed "Landlocked" Waters. There is no Real Issue of Law on Legal Criteria and the Mass of Technical Evidence Sustains the Master's Conclusions on These Questions

Louisiana called to the Court's attention in its original memorandum that the Special Master, after exhaustive hearings, determined from an extensive technical record that he must find (and did find) identifiable headlands:

> . . . it would seem to follow East Bay is such an indentation in the coast that if a closing line can be drawn within it between clearly identifiable headlands so that the enclosed waters meet the semicircle test, then the result is a juridical bay within the meaning of the Geneva Convention. Report, at 28.

Louisiana then mentioned the Special Master found *all*

technical requisites were present, including identifiable headlands.

> . . . either of these closing lines [Lines A or B] might be accepted, as the area which each of them encloses has *all* of the other characteristics of a true juridical bay. Report, at 31. (Emphasis added.)

As to Lines C and D, Mr. Armstrong specifically found as a fact that all of the requirements of the Court were satisfied:

> . . . [B]oth of these also appear to meet the test of enclosing landlocked waters in a well-defined indentation with identifiable headlands. Report, at 32.

The Special Master was quite cognizant of technical arguments now again submitted to this Court which he fully considered and rejected in the light of evidence in the record:

> Although the United States argues that the headlands selected by Louisiana for these two closing lines do not meet the necessary requirements as they follow the general contour of the shore and therefore are more closely related to the entrance to subsidiary pocket bays than to the enclosing of any part of East Bay itself, this argument is untenable as there are numerous examples in the record of similar headlands which have been accepted as the termini of closing lines for bays in other areas. Report, at 32-33.

A Mere Small Scale Drawing is Inadequate As A Basis of Judgment

The United States is urging the Court to over-

rule findings of fact by the Special Master by considering certain inaccurate drawings of East Bay in its brief (not based on stipulated maps) without taking into account the exhaustive record considered by the Special Master.

Louisiana maintains these findings of fact on geomorphic questions are correct.[6]

We re-emphasize that the United States, without discussing the evidence in the record, is asking this Court to overrule the findings of fact by the Special Master, including those relating to Louisiana's Lines

[6] Louisiana urges the Special Master misread the Convention and the rulings of this Court on the water areas to be considered for the purpose of determining whether the area enclosed by Louisiana's Lines A and B satisfied the semicircle test. The Special Master had some serious doubt on this score as is apparent from the comment in his Report where he recognized that the Court might very well consider his method too restrictive and adopt either Louisiana's method 2 or 3. In that case, the Special Master found that the area enclosed by Louisiana's Line A would meet the semicircle test by using method 3 and the area enclosed by Louisiana's Line B would meet the semicircle test by using method 2. The Master must have also had some serious doubts about whether his findings on erosion would be accepted by this Court. Reasons treated in the Louisiana Brief, at 77-92, confirm Mr. Armstrong's uncertainty on area measurement and erosion matters as suggested by his finding that Line A and B possessed all other characteristics of a true juridical bay. See Report, at 31.

> If this were not the case, either due to the adoption of a more liberal method of water area measurement or due to subsequent erosion in the area established by competent evidence in the record, either of these closing lines might be accepted, as the area which each of them encloses has all of the other characteristics of a true juridical bay. Report, at 31.

C and D, based on drawings 1 and 2 in its brief, which do not portray East Bay as developed by the evidence.

A small-scale drawing, considered alone, is not suitable for coastline determination problems involving precise geographic details, such as identifying headlands. There is a good reason underlying the rule of the Convention that it is the "low-water line along the coast as marked on large-scale charts officially recognized by the coastal State" which should be employed for determining the baseline. See Article 3.[7] A mariner seldom sees a whole bay at once, except on a chart. Judgments at sea must be based upon large-scale charts. Smaller scale reduced size drawings, by their very nature, can eliminate detail or reduce the effect of detail upon full-size "large-scale" charts. That is why illustrations presented by Louisiana, *e.g.*, Figures 2 through 5,[8] Louisiana Brief, at 71-74, were photographically reduced charts in effect for dates under consideration. However, even reduction of these charts required the caveat that inevitably geographic features were destroyed or modified which can only be appropriately represented on full-size, large-scale charts. Small-scale, reduced size drawings are more imprecise.

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[7] This refutes the federal argument that maps of a larger scale than used on official charts are needed. Compare that argument, found in the United States' Memorandum, at 19, with the argument that the drawings at a small scale are all the Court needs to pass on the geographic questions.

[8] References to figures of Louisiana's earlier brief are styled *e.g.*, "Figure 2." To identify which figures are in *this* reply memorandum, figures herein are styled with a letter prefix "R", *e.g.* Figure R-1.

That is why Article 3 calls for the use of large-scale charts. Thus, while a small-scale drawing may be useful to consolidate large-scale information or to make gross comparisons, the large-scale materials should be examined when detail is significant, as in the case of selecting headlands.

The Special Master's judgment was based not merely on small-scale drawings but upon his examination of dozens of large-scale charts and, where charts were incomplete or in error, upon the examination of detailed surface and aerial photographs. See, *e.g.*, Figure 7, Louisiana Brief, at 78, one of hundreds of photographs of the East Bay perimeter in the record of the case. In evaluating such evidence, he was aided by his personal aerial inspections of East Bay. Additionally, his findings of fact on the landlocked matter and the well-marked identifiable headland problem were based as well on a host of testimony, cartographic exhibits, photographic exhibits, survey maps, geographic and geomorphic expert testimony, both federal and state as itemized below. The government, instead of treating this evidence, would have the Court pass upon these complex questions on the basis of simplified drawings which are inadequate as to headland and other vital details. There would have been no need to refer this issue to the Special Master if the Government argument is accepted.

One problem which well illustrates the inappropriateness of attempting to use simplified, small-scale sketches to determine the minutiae of headland selection relates to lack of color which is present on large

scale charts to contrast land-water areas. Another is the lack of detail lost when large scale maps or charts are reduced. See testimony of the cartographer, Mr. Larimore, Tr. 5642-5. An example of this loss of detail is the complete failure of the drawings at South Pass to show the mudlump islands and especially the island which is the eastern headland of Line A lying between X = 2,697,300, Y = 118,500, and X = 2,697,850, Y = 117,200. See Map 4 of 8 of the Set of 54 Maps (the stipulated maps) and La. Exh. 8 (tr. 164), a copy of Chart 1272 showing the islands, and La. Exh. 342 (tr. 6271) and related testimony of Dr. Morgan showing how the South Pass spit had nearly grown out to this island. This was the subject of much other evidence weighed by the Master, when he approved Line A's headlands as identifiable and enclosing landlocked waters. The government would overcome this evidence by not showing the island, not showing the reconstruction of the spit and the growth of it, and simply telling the Court that all the Court needed to do was look at the drawings which ignore such evidence.

Another deficiency of a simplified drawing is the failure to treat changes in configuration over time.[9] East Bay's configuration on June 5, 1950, the initial stipulated accounting date, was different from the configuration that existed on August 2, 1955, when the

[9] See Louisiana Brief, at 110, discussing the fact that a "chart" is not precise but is a reasonable summary of a motion picture, and that is what is required by Article 3. Contrast this to the United States' Memorandum, at 17, claiming that four times greater precision or absolutely correct mapping is required. This is impossible for a changing coast.

chart was revised, and on September 17, 1956, when the chart was revised, and in subsequent chart revisions.[10]

The location of the western headland, a peninsula on the Southwest Pass side, so plainly reflected on the September 17, 1956 chart and on the September 17, 1962 chart, as shown in La. Exh. 180 (tr. 2679), are ignored in the drawings which employ the later configuration at a more northerly location.

Drawings 1 and 2 in the United States' Memorandum do not show most of the tributary waters entering East Bay from South Pass and Southwest Pass. See *e.g.*, photographs reproduced as Figure 7, Louisiana Brief, at 78; and Figures 9-A through 9-D, Louisiana Brief, at 82, 83. Nor do they show Joseph Bayou entering East Bay from Southwest Pass and the canalization of the landed area around Joseph Bayou which leads to destruction of the marsh and mere remnants of spoilbanks rather than solid land mass. Such a drawing cannot reflect the magnitude of erosion, which is well explained verbally in the testimony of Alan Ensminger, Tr. at 767-69, 789-801, and Dr. Morgan, Tr. at 2366-70.

With the exception of a drawing which was mere-

[10] See La. Exh. 23 (tr. 386) showing the chart configurations in effect between 1944 and 1956, La. Exh. 180 (tr. 2679) containing a reproduction of charts covering the period of 1918 through the chart changes of September 17, 1962, on the official chart 1272 with overlays showing a satisfaction of the semicircle test for the quite pronounced headlands of Line C'.

ly illustrative of a concept, *e.g.*, Figure 1, Louisiana used reduced copies of actual evidence in the record in preparing the graphic figures in our recent brief. See Figure 2 through 5, Louisiana Brief, at 71-74; and Figures 7 through 11, Louisiana Brief, at 78-85.

No simplified drawing can show the detailed reality of photographic evidence like Figure 10, at 84, Louisiana Brief.

Line drawings are, however, a practical way to compare gross configurations of indentations. It is noteworthy, however, that the Government Memorandum did not attempt such comparisons.

Legal Requirements and Precedent

Sound legal technique requires careful weighing of the facts of this case against precedent and the letter of the Convention.[11]

Article 7, par. 2 reads:

> 2. For the purposes of these articles, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain landlocked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semicircle whose diameter is a line drawn across the mouth of that indentation.

Certain elements stand out. There must be (1)

[11] The United States' Memorandum, at 8, claims "no reference to the record is necessary or *appropriate*." (Emphasis added.)

"a well-marked indentation," (2) which "contains landlocked waters" and is more than a mere curvature of the coast. Whether a water body contains landlocked waters and is thereby more than a mere curvature of the coast, under the clear and controlling letter of the Convention depends upon whether it has sufficient "penetration . . . in such proportion to the width of its mouth as to contain landlocked waters." This Court has interpreted these Convention provisions as implicitly requiring that a bay closing line should have "identifiable headlands."

The identifiable headland problem is appropriately considered under the requirement of a "well-marked indentation." See Article 7, paragraph 3 which directs use of the "natural entrance points" for marking the line behind which the area of the indentation is to be measured.

This is not to say that there must be a *pronounced* headland to constitute the identifiable headland which should be employed as a natural entrance point.[12] But if there is a pronounced headland feature, the outermost qualifying extension of it which meets all requirements of a bay should be identified as the bay closing line. This Court has already held, 394 U.S. 11, at 34, that Louisiana should be treated like California and other states. In the decree in *United States v. California*, 382 U.S. 448, at 451, it was provided:

> In drawing a closing line across the entrance of any body of inland water having pronounced headlands, the line shall be drawn between the points

[12] See note 3, *supra*.

where the place of mean lower low water meets the outermost extension of the headlands. Where there is no pronounced headland, the line shall be drawn to the point where the line of mean lower low water on the shore is intersected by the bisector of the angle formed where a line projecting the general trend of the line of mean lower low water along the open coast meets a line projecting the general trend of the line of mean lower low water along the tributary waterway.[13]

This precedent reflects two principles: (1) that, where presented with the choice, it is necessary to use the outermost identifiable headland, and (2) an identifiable headland need not be pronounced and can be identified by the bisector of the angle method, a well-established geographical technique. See 1 Shalowitz, *Shore and Sea Boundaries*, 64.

This accords with the excellent analysis of the problems of applying Article 7 made by the British judiciary in the important precedent, *Post Office v. Estuary Radio Ltd.*, 3 All E.R. 663, at 681 (1967).[14]

[13] *Quoted* by the Special Master, Report, at 28, 29.

[14] This British case is also of great importance on the matter of measurements under Article 7, par. 3, calling for use of the "low-water mark around the shore" of the indentation. While the higher British court had no need to reach this question, as explained 3 All E.R. at 684, the trial court ruled:

> I have come to the conclusion that one has to go up every river and creek which has got a low water line to it, to the limit, and difficult as it may be to produce the resultant calculation, that is the right way to do it.

This British interpretation of Article 7, par. 3, supports

> It follows from this definition that within a larger indentation which, because of the width of its mouth in proportion to its penetration, is not itself a "bay", there may be a smaller indentation which is itself a "bay" provided that there are identifiable points on either side of the mouth of the smaller indentation which can be properly described as its natural entrance points. Where this is so it is irrelevant that the sea on the seaward side of the bay itself lies on the landward side of the mouth of the larger indentation which, because of the width of the mouth in proportion to its penetration, is not a "bay".

The British practice accords with this Court's decision on East Bay juridical bay questions. See 394 U.S. 11, at 53, 54. Having found that an outermost line did not qualify, this Court held an alternative line at a more inward location would enclose a bay if it had identifiable headlands which enclose a well-marked indentation containing landlocked waters. A Special Master was needed to conduct an inspection of large-scale charts and consider other evidence affecting the question of whether one can identify entrance points

Line A, and if accepted by the Court, more inward lines need not be considered.

Like the British Court, in rejecting a former Louisiana argument based on expediency, this Court has held that the text of the law controls over practical arguments. 394 U.S. 11, at 34. Thus, whether or not 1:20,000 *maps* are *more* sensible or correct than 1:80,000 charts, the charts control unless they differ from reality "to any great extent" or "unrealistically" extend the low-water line. Testimony of Dr. Louis Henkin, the Government's expert on international law. Tr. 4936-8.

of an indentation possessing the required characteristics.

As the British Court observed, 3 All E.R. at 683, 684 (1967)

> The only simple and convenient way [to select headlands or boundary baselines or bays] is by visual inspection and measurement of the officially recognized charts of the claimant state. Confirmation of this is to be found in art. 3 of the Convention, which reads as follows:
>
> > "Except where otherwise provided in these articles, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal state;"

and a further indication can be seen in art. 4, para. 6.

* * *

> This was a question of fact for the judge to be decided in the light of his own observation of the charts which were put in evidence, and such assistance as he could obtain from the evidence of the expert witnesses. We agree with his decision.

The criteria for determination of headlands, that is for identifying headlands or natural entrance points, have been so well summarized by Shalowitz:

> For establishing the precise boundary points or termini at headlands (referred to as "landmarks" by the Special Master in the *California* case) that will best establish the limiting line of

inland waters, certain physical facts must be kept in mind.

Headlands are subject to almost limitless variations as to size, shape, and orientation. Therefore, any rule laid down must be general in character and may require exceptions in individual cases. In common usage, the word headland implies a land mass having considerable elevation, something that the navigator can see from offshore—a kind of landmark for him. However, in the context of the law of the sea, elevation is not a pertinent attribute. What is important are the relationships between land and water which lie in a horizontal plane. A headland can then be defined generally as the apex of a salient of the coast; the point of maximum extension of a portion of the land into the water; or a point on the shore at which there is an appreciable change in direction of the general trend of the coast.

The shores of the headlands are formed by two different groups of forces—those of the ocean and those of the estuary or tributary waterway. The points sought are where the shores resulting from these forces meet. Therefore, each terminus of the headland-to-headland line is taken as a point at the outermost extension of the headland from which it is drawn. There is frequently some one characteristic point, some minor shore form, as a sandspit or cusp, which obviously is the point sought. (*See* point *A* in fig. 12.) Where the headland is of considerable extent with a gently rounded and featureless shore, a satisfactory solution may be reached by bisecting the angle formed by a line coinciding with the general trend of the low-water mark along the open coast, and a line coin-

> ciding with the general trend of the low-water mark along the bay or tributary waterway. Where this bisectrix intersects the low-water mark will be the point sought. 1 Shalowitz, at 63-65.

Shalowitz was the principal government witness in the Special Master proceedings of the California case. His book, quoted above, is an official publication of the Coast and Geodetic Survey, representing federal positions.

These standards are not susceptible of precise definition.[15] For detailed application of the text of Article 7 in deciding what is well-marked or landlocked in particular circumstances, one should look to the facts of decisional law, especially decisions the article codified.

The *North Atlantic Coast Fisheries Arbitration* [16] involved numerous bays which might furnish a basis of comparison, if an example could be found of an indentation which had the shape of East Bay behind claimed lines.

The Thames Estuary [17] decision, discussed *supra*, furnishes a further factual construct for comparison to precedent, for it was approved as satisfying bay rules.

As the government itself argued in the proceedings before the Special Master, the concept of *inter*

[15] See 394 U.S. 11, at 66, *quoting* Shalowitz, ". . . no precise standard is possible."

[16] Scott, The Hague Court Reports, 141 (1916).

[17] Post Office v. Estuary Radio Ltd., 3 All E. R. 663 (1967).

fauces terrae embodies the bay concepts, well marked and landlocked. So it was important to search for circumstances of a precedent that would clarify the abstract maxim for the case at bar. The decision in the *Moray Firth* case [18] in Scotland furnished such a precedent.

In these equal United States, it is also important to search for precedent in government treatment of our sister states to ascertain whether that which is claimed abstractly to support oil claims as against Louisiana accords with the precise facts of precedent involving our sister states where no oil claims are present. For this, there are a host of precedents contained in U.S. Exh. 416D (tr. 6427).[19]

The earlier decision of this Court in this case also furnishes important precedent, *e.g.*, the holding [20] on the use of tributary water bodies within West Bay as forming part of the area of Ascension Bay. Thus, those facts warrant comparison to East Bay facts.

Thus, in response to the abstract federal arguments on claimed analyses and applications of law to East Bay, Louisiana offers concrete comparisons to the facts of these cases and other precedents.

The Facts of East Bay and Recognized Bays

The government apparently argues at pages 11-12

[18] Mortenson v. Peters, 14 Scots L.T.R. 227 (1906).

[19] Self-serving delineations should not be accepted as binding on the other party nor upon the Court but they should certainly be acceptable as persuasive evidence against the government which has made them.

[20] 394 U.S. 11, at 53, n. 71.

of the United States' Memorandum that unless East Bay as a whole, behind its artificially widened mouth,[21] qualifies as a bay, no inner part may qualify. This is grounded upon geometrically false assumptions, *e.g.*, that East Bay is an exact triangle with sides that are perfectly straight and maintain the same relative depth of penetration in proportion to width of mouth. Even inspection of the government drawings refutes this. While arguing that the areas behind East Bay closing lines do not qualify because they are allegedly V-shaped or triangular, the government simultaneously argues that they do not qualify because there are discrete pockets of water at the termini of the closing lines. There is no way the government can reconcile these "pockets" with the V or triangular shaped argument unless it is said that the V or triangle has sharp hooks

[21] Government drawings 1 and 2 present a view of the indentation formed by the artificially splayed or widened mouth created by the miles long Southwest Pass jetties. For purposes of measuring area or depth of penetration in proportion to the mouth, Article 7, paragraph 3 should be followed in the requirement that the *natural* entrance points of a bay are to be used in measuring the bay.

Louisiana closing Line A strikes the base of the jetty that is the outer extremity of the natural land and is identifiable for that reason by inspection of the official large-scale charts which show this. (Government drawings 1 and 2 do not show the full extent of that jetty. U.S.C. & G.S. chart 1272 does because it is at a large scale, and the federal drawing is at a small-scale.) See the testimony of Mr. Larimore, the cartographer, Tr. 5597-5599 explaining that the line of La. Exh. 23 (which corresponds to Line A) uses an identifiable headland, identifiable on a chart as the outer limit of the natural land.

at its mouth; but then it is inconsistently alleged that there are no pronounced features at the termini which enclose landlocked waters.

A closing line must be evaluated on the basis of its "own features." [22]

If this were not so, a closing line could never qualify if it carved out a portion of a larger indentation that did not also qualify as a bay. Both this Court and the British Court has ruled to the contrary.[23]

The unsound shape arguments of the United States are also defeated by their own expert, Dr. Robert Hodgson, the Geographer of the State Department. This is shown on maps which were prepared under his direction, delineating various bay claims in the United States which were approved by the interdepartmental committee of the United States and introduced over Louisiana's objection as U.S. Exh. 416D (tr. 6427).

Figure R-2 is a partial list of dozens of such bays, as shown in United States Exh. 416D (tr. 6427). Many more can be found therein. None of these bays have recurved or pinched headlands which the government implies is essential in the position which it continues to assert in n. 15, at 12 of its Memorandum (the argument that a V-shaped bay does not qualify.) [24]

Ursus Cove and Abraham Bay are examples of

[22] 394 U.S. 11, at 54.

[23] 394 U.S. 11, at 54 and *Post Office v. Estuary Radio Ltd.*, 3 All E.R., at 663 (1967), *quoted* in text *supra* at n. 14. See Figure R-1.

[24] Of course, East Bay is not truly a perfect V or triangle, a further deficiency in the argument.

essentially V-shaped bays. Many other examples can be found outside of the United States, *e.g.*, the Thames Estuary and Moray Firth. See Figure R-3 showing the general shape of Ursus Cove and Abraham Bay, and the closing line approved by Dr. Hodgson and the interdepartmental committee. Compare these non-oil producing bays to the arguments, United States Memorandum, at 12-13, about wide mouth, triangular shaped bays.

Figure R-1, *supra*, shows the Thames Estuary, and its recognized closing lines. The British Court was prepared to accept either line finally using Line 2 *arguendo* to avoid area measurement problems. In the Louisiana trial, a cartographer, Mr. Larimore, made suitable scale transparencies of East Bay, La. Exh. 295-A (5640) and the Thames Estuary, La. Exh. 291 (tr. 5618) to overlay East Bay on the Thames Estuary at the same map size. Tr. 5640-41. As he testified, and as the Special Master could see for himself:

> It fits rather well . . . Tr. 5641.

Handling of transparencies is not practical in brief. This is an example of why the Special Master's findings should bear special weight.

The Moray Firth decision presents an example of a bay which was recognized in Great Britain as having the necessary *inter fauces terrae* shape. Figure R-4 reproduces an illustration from Commander Strohl's treatise on bays, showing its 73 mile mouth and shape.

Line A claimed by Louisiana compares very well. See Figure R-5. The other lines would fare as well or better.

Egmont Bay is a bay which Britain and the United States recognized as a juridical bay as a consequence of the famed *North Atlantic Coast Fisheries Arbitration*, cited by the Special Master, Report, at 28. That bay and its recognized closing line was compared to East Bay's Line A in the proceedings before the Master. We did not bother to compare it to all of the alternative lines, in the interest of brevity, but all of the lines compare well. Again, the cartography does not lend itself to ready comparison in brief.

These graphic comparisons are accomplished by enlarging or reducing one or the other bay configuration until its mouth is the same size (on paper) of the bay to be compared. Thus, shape or configuration can be compared free of the effect of size or scale. Moray Firth is 73 miles wide at its mouth. The widest alternative juridical mouth for East Bay claimed by Louisiana (Line A) is about 12 miles, the smallest is less than five miles.[25] The Thames Estuary is about 43 miles wide at its outer mouth, nearly 30 at its inner mouth. Many bays in U.S. Exh. 416D (tr. 6427) can be favorably compared to East Bay, on the basis of shape and size. We show a few in Figure R-6 which show federally recognized bays from U. S. Exh. 416D (tr. 6427) with mouths often precisely the same size as the principal East Bay juridical claims.

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[25] See La. Exh. 197 (tr. 3541)

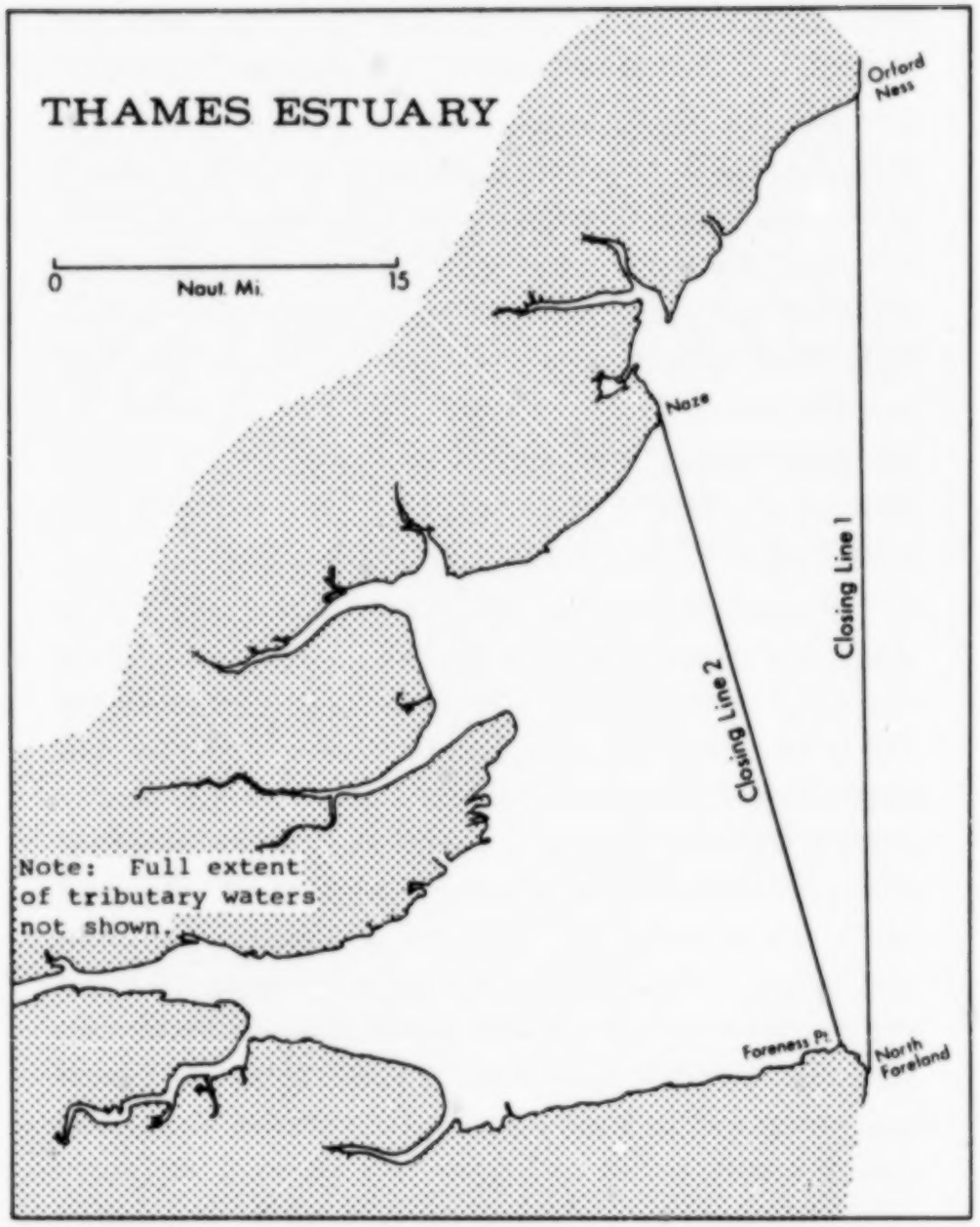
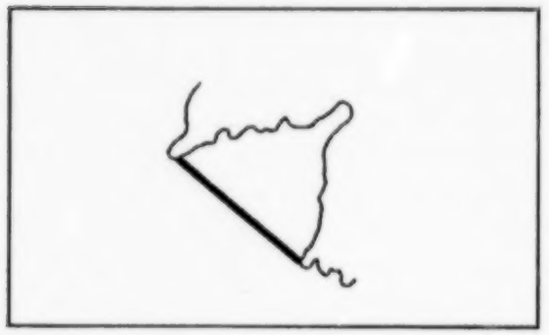


Figure R-1. Fall-back principle for bay closing line determination as discussed in *Post Office v. Estuary Radio, Ltd.* [1967] 3 All E. R. 663, 681, [La. Exh. 283 (17)]. Closing line 2 becomes the proper bay closure if closing line 1 does not meet bay area requirements.

Bay	*Chart No.*
Frenchman	1202
Blue Hill	1202
West Penobscot	1203
Muscongus	1204
John's Bay	1204
Buzzards	1210
Wassaw Sound	1241
Garden Island	1272
Bucket Bend	1272
Corpus Christi	1286
Bay of Pillars	8252
Saginaw	8252
Whitewater	8252
Hood	8252
Freshwater	8252
Gilmer	8252
Yakutat	8402
Icy	8457
Port Bainbridge	8551
Puget	8552
Resurrection	8552
Harris	8552
Kamishak	8554
Kachemak	8554
Farmanof	8556
Tonki	8556
Alitak	8556
Kashvik	8556
Portage	8556
Puale	8556
Balboa	8859
Belkofski	8859
Volcano	8859
Pavlof	8859

Figure R-2. A partial list of indentations with closing lines delimited as enclosing inland waters by the federal government in U.S. Exh. 416-D (tr. 6427) which do *not* have or use recurved or "pinched" headlands but which nevertheless were apparently considered as the limits of landlocked waters.

Ursus Cove from Chart 8554 in U.S. Exh. 416-D (tr. 6427).



Abraham Bay from Chart 8865 in U.S. Exh. 416-D (tr. 6427).

Figure R-3

Another way to compare bays, other than by graphic inspection of chart configurations, is to employ measurement data. This is particularly important for the "landlocked" question, to determine whether a bay is more than a mere curvature of the coast.

If the depth of penetration is half of the mouth, the bay ought to be deemed landlocked. This is the

principle of the semi-circle test. As the Dutch scholar, Dr. Leo J. Bouchez stated:

> The essence of this definition is that indentations the penetration of which is at least half the width of the entrance are classified as bays.[26]

All lines claimed by Louisiana easily satisfy this ratio of .5 to 1. See Figure R-7, discussed below. Only Lines A and B are not admitted by the government as fully satisfying the semicircle test.

The Special Master's holdings that each of the principal alternatives claimed by Louisiana satisfied all juridical bay requisites, other than as noted above, were also made in the light of precise measurement data presented through the testimony of a geomorphologist, using linear measurement technique. The ratios for Lines A, B, C and D compared to Monterey Bay, using the system recommended by an expert, as summarized in Figure R-7, amply support the finding of the Special Master, who, after quoting the rule

> . . . a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain landlocked waters and constitute more than a mere curvature of the coast.

applied that rule and found as a fact:

> The physical configuration of the East Bay area would seem to meet this test upon the basis

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[26] Bouchez, *The Regime of Bays in International Law*, at 19, 20. See also discussion *infra* entitled "Of C's, V's and O's."

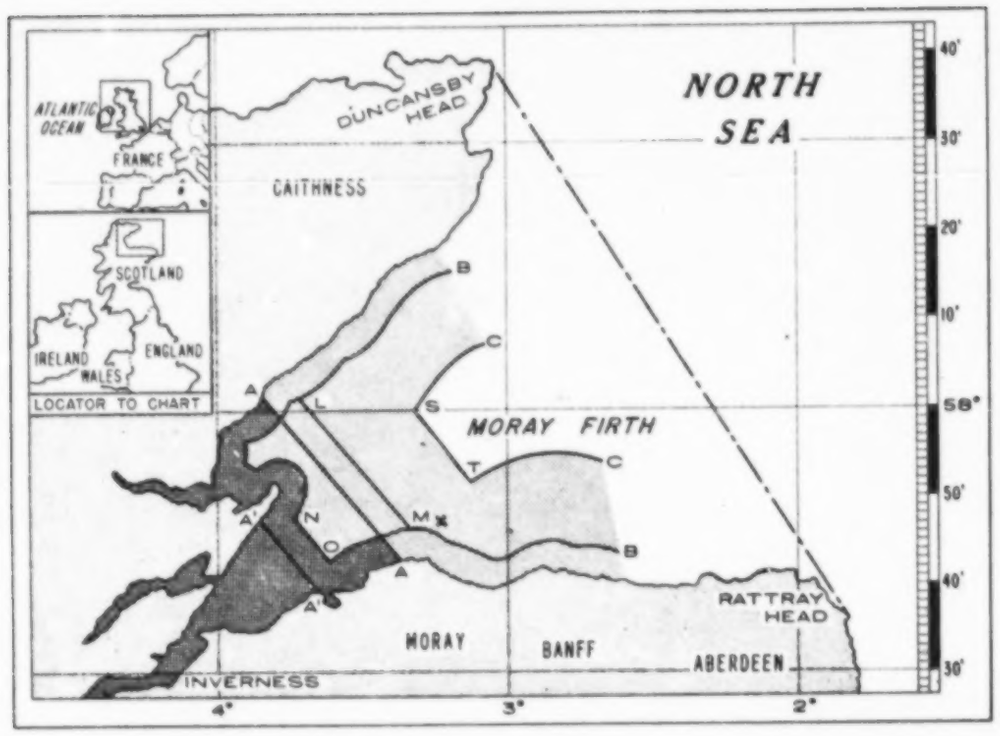

Figure R-4. Reproduction of Figure 15 from Commander Mitchell P. Strohl's book, *The International Law of Bays*, showing the 73.5 mile closing line between natural entrance points of Moray Firth, Scotland.

MORAY FIRTH, SCOTLAND

FIG. 15

LEGEND

AA—24-mile closing line.
BLMB—Outer limit of 3-mile marginal belt using 24-mile closing line.
A'A'—10-mile closing line.
BLNOMB—Outer limit of 3-mile marginal belt using 10-mile closing line.
CSTC—Outer limit of 12-mile marginal belt using 24-mile closing line.
- — - —Line *inter fauces terrae*, as described in Moray Firth Case of 1906.
X—Site of alleged offense of Emmanuel Mortenson in Moray Firth Case of 1906.

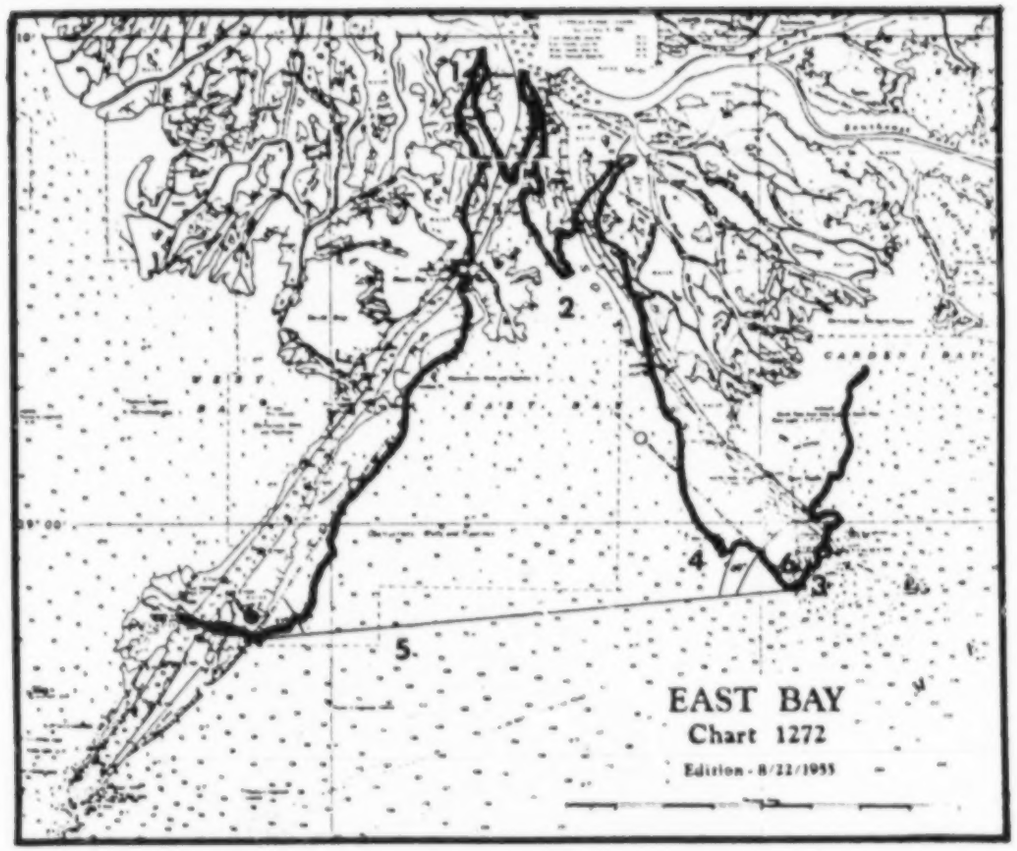

Figure R-5. East Bay and Moray Firth (in dark outline) : A comparison

1. Depth of penetration is roughly comparable.
2. Basic overall configuration is comparable.
3. A sharp salient, the tombolo at South Pass juts out and gives extra shelter to East Bay.
4. East Bay closing line passes 45° proposal; Moray Firth closing line fails it.
5. Moray Firth 73.5 miles wide; East Bay line is less than 12 miles wide.
6. East Bay's headland angle to closing line more sharp and pronounced.

Note: The 1955 chart, from La. Exh. 23-A, was chosen for its clarity in reproduction. The essentials of the comparison would not differ if other charts were employed.

EAST BAY

Closing line "A" – 12.1 na. mi.

Source: La. Exh. 197

Note — bay periphery generalized; additional tributary waters not shown.

PORTAGE BAY

Source : U.S. Exh. 416-D, Chart 8556

Closing line = approx. 6.5 na. mi.

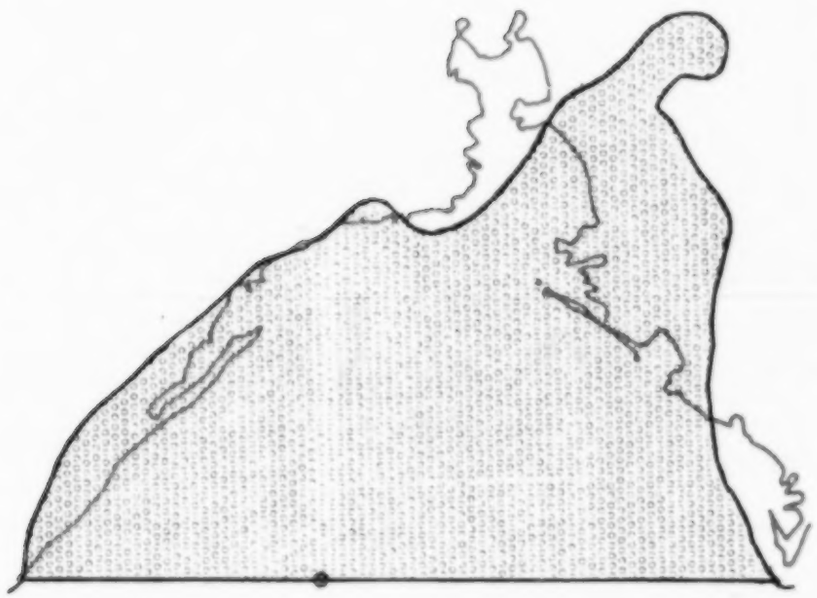

Figure R-6a

EAST BAY

Closing line "A" – 12.1 na. mi.

Source: La. Exh. 197

Note — bay periphery generalized; additional tributary waters not shown.

URSUS COVE

Source : U.S. Exh. 416-D, Chart 8554

Closing line = approx. 6 na. mi.

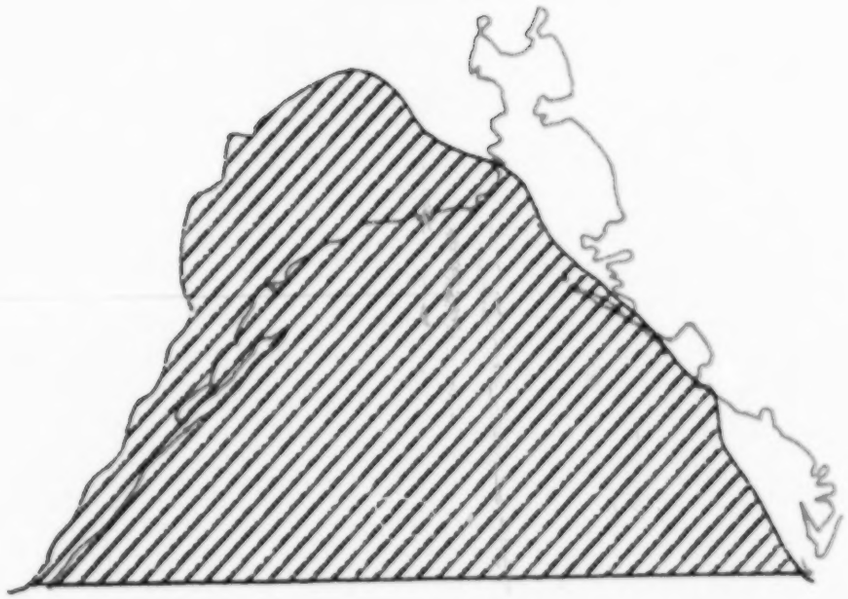

Figure R-6b

EAST BAY

Closing line "B" - 6.6 na. mi.

Source: La. Exh. 197

Note — bay periphery generalized, additional tributary bay waters not shown

ABRAHAM BAY

Source : U.S. Exh. 416-D, Chart 8865

Closing line = approx. 6 na. mi.

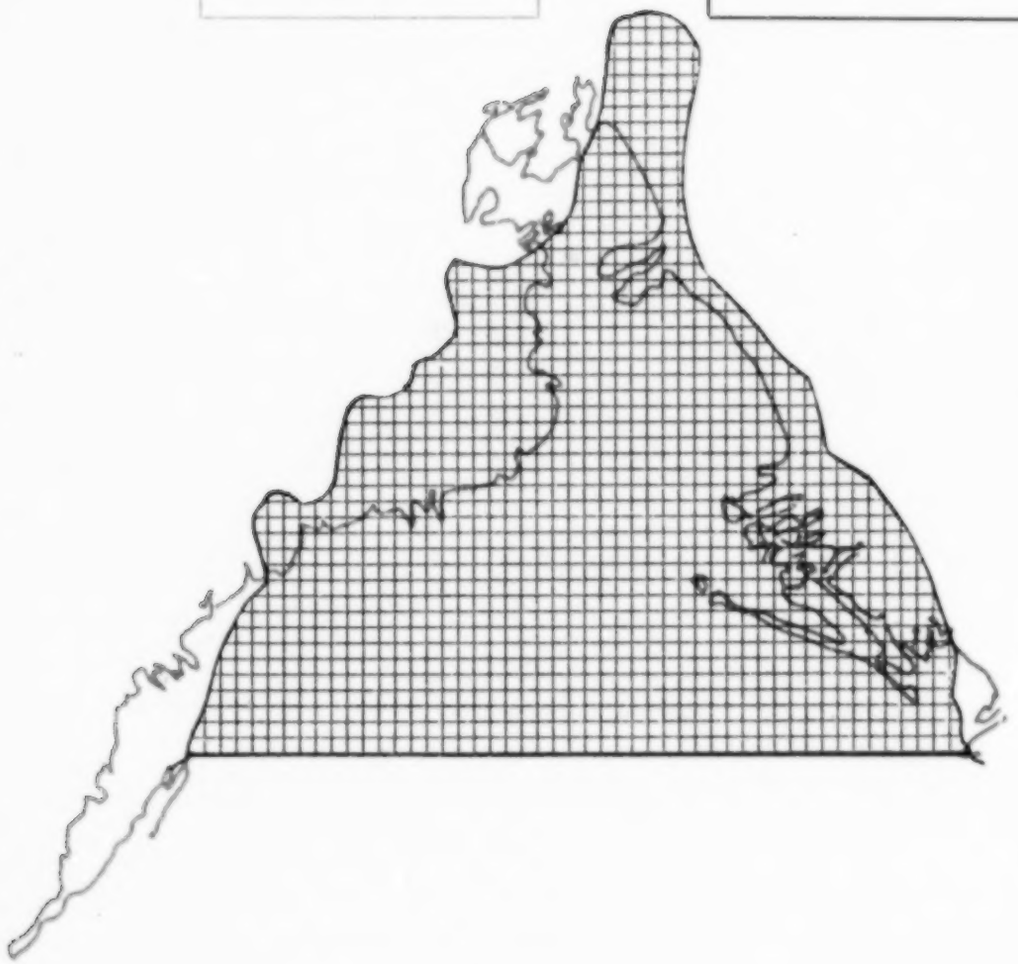

Figure R-6c

EAST BAY

Closing line "B" - 6.6 na. mi.

Source: La. Exh. 197

Note — bay periphery generalized, additional tributary bay waters not shown

PORTAGE BAY

Source : U.S. Exh. 416-D, Chart 8556

Closing line = approx. 6.5 na. mi.

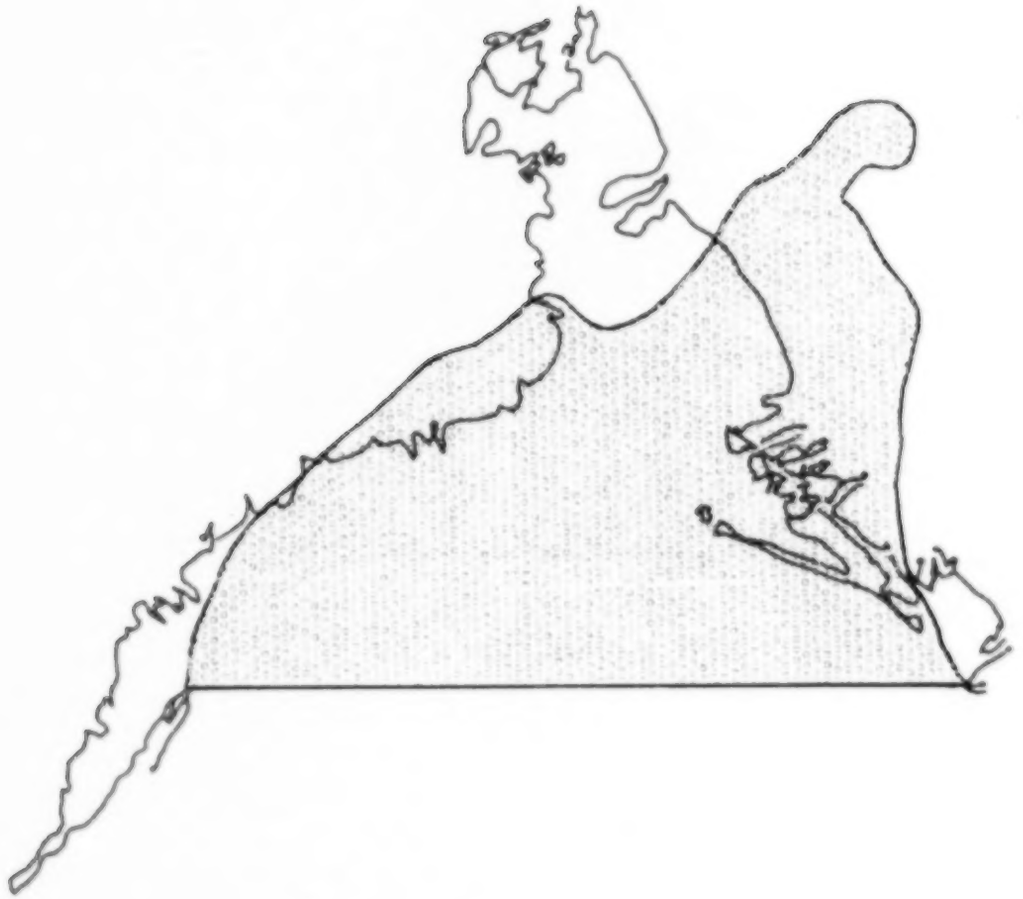

Figure R-6d

EAST BAY

Closing line "C" – 5.4 na. mi.

Source : La. Exh. 197

Note — bay periphery generalized; additional tributary bay waters not shown

PUGET BAY

Source : U.S. Exh. 416-D, Chart 8552

Closing line – approx. 5.5 na. mi.

Figure R-6e

EAST BAY

Closing line "C" – 5.4 na. mi.

Source : La. Exh. 197

Note — bay periphery generalized; additional tributary bay waters not shown

PORTAGE BAY

Source : U.S. Exh. 416-D, Chart 8556

Closing line – approx. 6.5 na. mi.

Figure R-6f

EAST BAY

Closing line "C" - 5.4 na. mi.

Source : La. Exh. 197

Note — bay periphery generalized; additional tributary bay waters not shown

ABRAHAM BAY

Source : U.S. Exh. 416-D, Chart 8865

Closing line = approx. 6 na. mi.

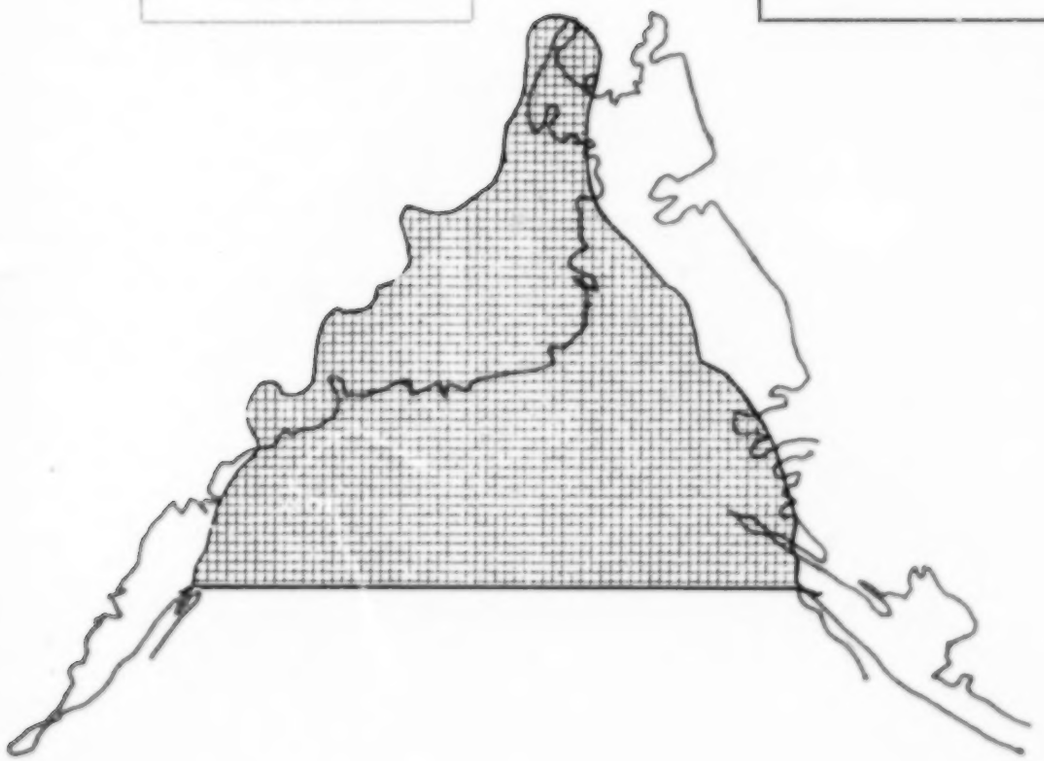

Figure R-6g

EAST BAY

Closing line "D" - 4.6 na. mi.

Source : La. Exh. 197

Note — bay periphery generalized; additional tributary bay waters not shown

PUGET BAY

Source : U.S. Exh. 416-D, Chart 8552

Closing line = approx. 5.5 na. mi.

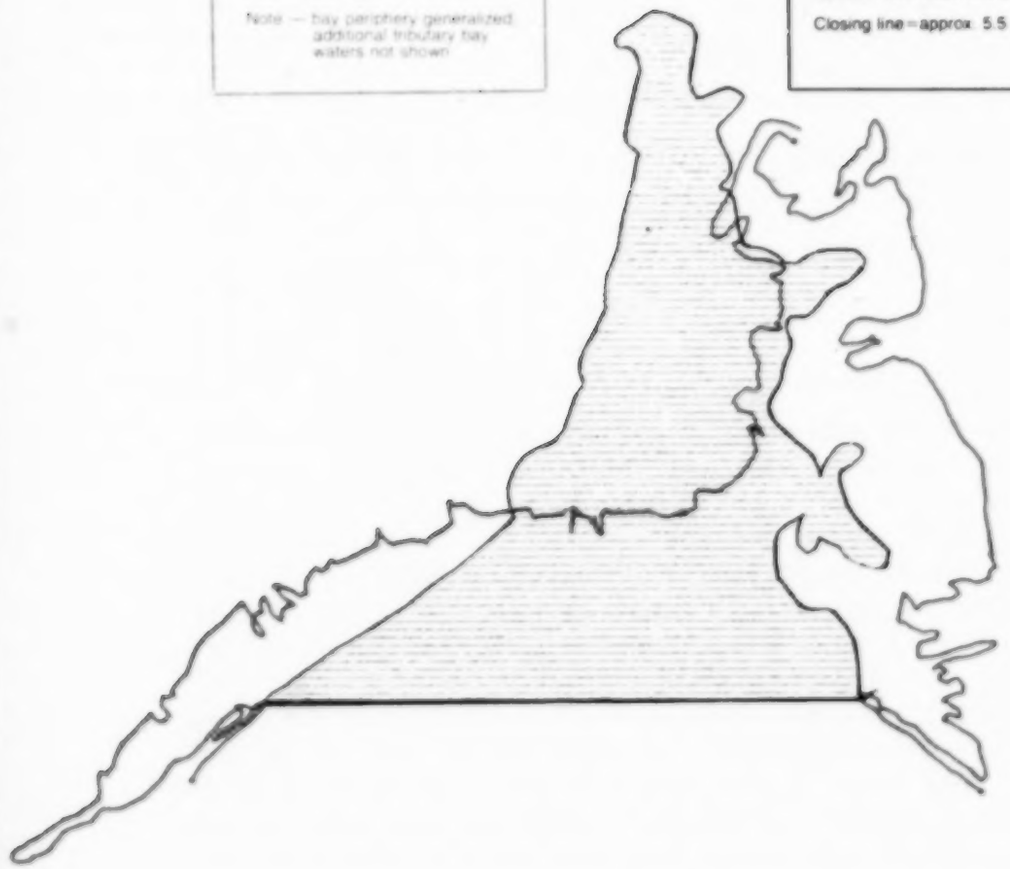

Figure R-6h

EAST BAY

Closing line "D" = 4.6 na. mi.

Source : La. Exh. 197

Note — bay periphery generalized; additional tributary bay waters not shown.

PORTAGE BAY

Source : U.S. Exh. 416-D, Chart 8556

Closing line = approx. 6.5 na. mi.

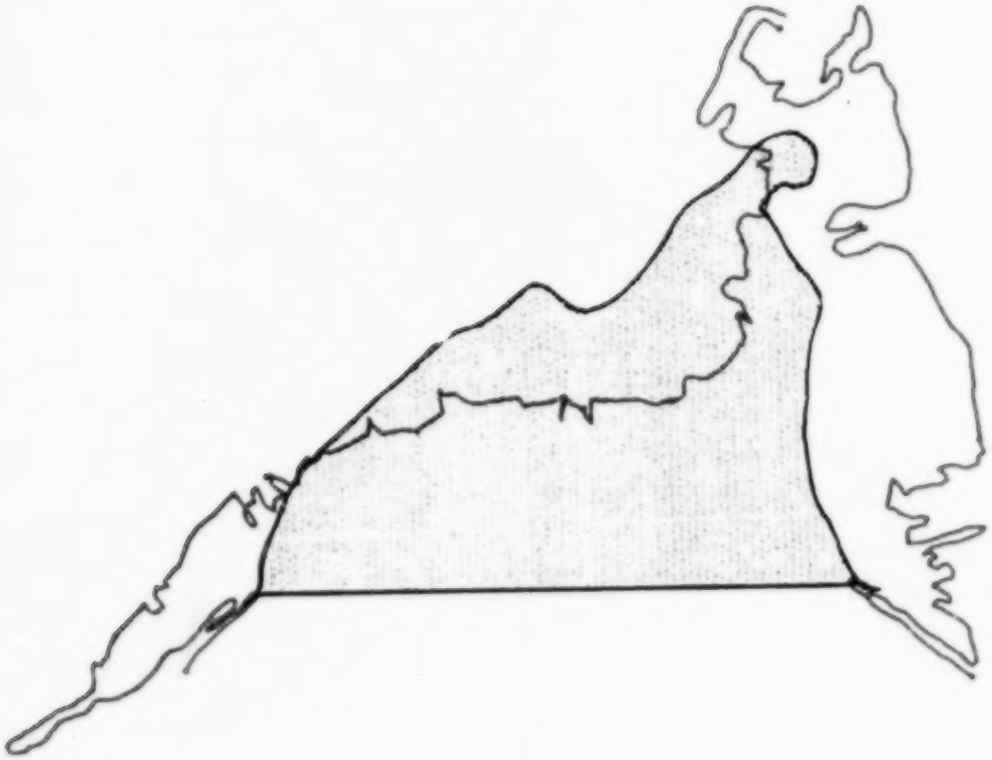

Figure R-6i

EAST BAY

LINES A, B, C AND D
Linear Depth of Penetration to Width of Mouth Ratios compared to Monterey Bay Data

	East Bay	Monterey Bay
Line		
A	.79 (depth) to 1 (mouth)	.64 (depth) to 1 (mouth)
B	.89 to 1	
C	1.02 to 1	
D	1.05 to 1	

Figure R-7. A comparison of "landlocked" data for Monterey Bay and East Bay alternative line claims, using the median line method. From actual uncontested measurements by David J. Morgan reflected in La. Exh. 229 (tr. 3864) (Method D) and 239 (tr. 3926) and admitted United States' Memorandum at 7. Note that each line by actual measurement exceeds the .75 ratio the government suggests for a V-shaped bay, United States' Memorandum at 12, note 14. Other methods of measuring depth of penetration are conceivable, but were not recommended as they did not measure the full depth of penetration. However, the data still generally favored East Bay. See La. Exh. 229 (tr. 3864). For the one method where the East Bay ratio was less than at Monterey Bay (Method A—perpendicular line from center of closing line) East Bay data approximately equaled or exceeded data for another recognized bay, Atchafalaya Bay. See La. Exh. 229 (tr. 3864).

of relationship between the width of its mouth to its depth upon a number of different closing lines . . . Report, at 27.

There is not only an absence of precedent cited by the government to support its arguments on geometry and shape. There is overwhelming precedent to contradict them. An example of such arguments relate to the alternative line claims of Louisiana in East Bay, which are styled "*surprising*," "suspect," and "artificially contrived," because they enclose areas that are seaward of the lines, allegedly "very odd basis" for defining a bay. See United States' Memorandum, at 12-13.

We ask the Court to look at any map of the Louisiana and Gulf Coast, *e.g.*, La. Exh. 2 (tr. 51) or maps 12 and 13 of the *National Atlas of the United States of America* or particular maps suggested in discussion below to compare the plain facts of precedent. Before discussing these particular precedents, it is well to clarify one point at the outset. No area is claimed by Louisiana as part of a bay lying seaward of the closing line of the bay that is not within the landform that forms the natural entrance point or headland of the bay, contrary to the implication of the federal argument. The geographic situation to which the federal argument relates is the presence of headland forms which curve inward and have areas of water behind them which, of course, form part of the bay they enclose.

As examples of this situation for well recognized bays, we make the following partial listing, not bothering to go beyond the immediate Louisiana coastal environ to delve into the U.S. Exh. 416D (tr. 6427) which would doubtless reveal dozens of other samples.

(1) Point au Fer (east of Atchafalaya Bay) encloses a discrete pocket bay which in major part is substantially seaward of the closing line from South Point of Marsh Island to Point au Fer recognized in *United States v. Louisiana*, 382 U.S. 288, at 291 par. 3(b) of that decree. See La. Exh. 194 (tr. 3605), for map.

(2) Lake Pelto is a discrete pocket bay which lies seaward of the closing line at Wine Island Pass approved in 394 U.S. 11, at 55-60, and the decree in *United States v. Louisiana*, 404 U.S. 388, which employs three-mile coordinate descriptions projected from a baseline extending from the eastern tip of the inward curving island known as Last Island. See La. Exh. 2 (tr. 51).

(3) In the area behind the inward curving island known as Timbalier Island which is the opposite headland of the closing line treated in the discussion of the precedents in (2) above, the discrete pocket bay area lies seaward of the closing line.

(4) This is true also as to the federal claim[27] at

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[27] Louisiana does not agree that this is the correct location. See Ascension Bay arguments hereafter. We merely

Caminada Bay near Grand Isle within Ascension Bay. See drawing 5, United States Memorandum.

(5) That portion of Lake Borgne and Mississippi Sound lying seaward of the closing line from the tip of the St. Bernard Peninsula to the peninsula in front of Mobile Bay. The government successfully avoided the significance of the recognition of Mississippi Sound as inland waters in dealing with island fringe problems involved in the 1969 decision through using that line. See 394 U.S. 11, at 66-73, discussion of island fringe problems and Reply Brief for the United States, *United States v. Louisiana*, No. 9, Original, October Term, 1968, at 30, wherein the United States successfully distinguished the Mississippi Sound situation on the grounds that the islands in front of Mississippi Sound were islands in the mouth of a bay extending from the St. Bernard Peninsula to a peninsula at Fort Morgan in front of Mobile Bay. La. Exh .2 (tr. 51) shows this area.

On Headlands at East Bay

The least pronounced of the various headlands claimed by Louisiana is the western headland for Line A and the Master was satisfied it was clearly identifiable. It was shown in the testimony of Dr. Morgan and through the examination of sources of charts extending back to 1839 that the headland was the approximate point at which the natural land terminated. This was clearly identifiable on the nautical charts where

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cite the government claim to show the inconsistency of government position.

the base of the jetty extensions could be found. Until modifications by the jetty work at Southwest Pass, it was even more pronounced in the past. See La. Exh. 23 tracing the Line A closure over time and Mr. Larimore's discussion of Dr. Morgan's testimony and chart information, in n. 21, *supra*. It corresponds as the eastern side of the "hump" feature at Southwest Pass to the "hump" feature which is the headland of West Bay (recognized by this Court). The bisector of the angle method supported its location, as mentioned above. Even Dr. Hodgson recognized that Southwest Pass and South Pass formed headlands of an indentation, Tr. 5373, and had many significant changes in direction along the shore of East Bay. Tr. 5372. In the rule of the California decree quoted *supra*, is the use of the outermost extension of those headlands which must be the *natural* entrance point under the Convention. The test of Shalowitz, 1 *Shalowitz*, at 64, of "some minor shore form" was satisfied as was the bisector of the angle test suggested by Shalowitz and approved by the Court in California.

All of this was present for the *least* "clearly" identifiable headland. Much more sustains the other headland such as the "apex of a salient rule." 1 *Shalowitz*, at 63.

As discussed *supra*, the Special Master not only found that there were identifiable headlands at East Bay, but found the presence of "clearly" identifiable headlands. See text discussion at n. 3 *supra*.

The many cartographic and shape comparisons

made earlier hardly make it essential to review the extensive evidence which supports the Special Master's finding on headlands, which is essentially a shape question. Inspection of the numerous graphic figures contradicts the federal arguments.

Dr. Hodgson's only reason for not admitting that the headlands related to and formed a closing line for East Bay was the argument that a headland had to relate to the indentation under consideration to enclose landlocked waters. Elsewhere in his testimony he had described his 45° test for objectively determining relationship of a headland to an indentation and agreed that objective test would control over his subjective opinion. Tr. 5503, 5282, 5414, 5275-76. This was an unsound test based on no legal authority. There was a conspicuous void in federal evidence using that test. Neither Dr. Hodgson nor other government experts used it at East Bay, although it was applied at other controverted headland areas. *Arguendo*, Louisiana applied that test to numerous maps through expert assistance which it is not practical to duplicate in the brief, but which, in the proceedings before the Special Master, thoroughly contradicted the federal position by proving that by the objective test Dr. Hodgson recommended, any of the East Bay headlands qualified. This is not to endorse his test but it does add to the fact that the Master was in a unique position to appraise such testimony and arguments. See original brief of Louisiana and the related extensive cartographic and mathematical material appearing in Vol. IV, Part 3 on East Bay, at 112-123 and cartographic

figures with measurements numbered E25 through E27. Also it was demonstrated that the first point where the 45° test would be satisfied would be at Line A which was also confirmed by the bisector of the angle method and technical methods shown to the Master on it. The Supreme Court of the United States should not have to go into all of this mathematical minutiae.

Even if there were a pronounced headland on only one side, there is precedent to show that an identifiable headland can be considered as present on the other side. See the Gulf of Kutch, treated by Strohl at 63, shown in Figure 13 of his work.

There is much in the record to sustain each alternative line. There is the testimony of Dr. Alexander Melamid, an eminent, *independent* academic geographer from New York University. Tr. 3322-32. There are the visual impressions of photographs and overflights. At Line A, for example, there is testimony on the mudlump island being in the process of joining the mainland shore, and much other detail supported the finding. See Appendix I for details of other headland evidence for each line.

See also testimony of Dr. Morgan, *e.g.*, tr. 2426, on the limit of the *natural* entrance points at the west side of Line A, tr. 2426, and on sections of the other headlands for East Bay closing lines, finding a "characteristic point," "a sandspit" at South Pass for Line A (see tr. 2652, *et seq.*, compare to 1 *Shalowitz*, at 64.)

The discussion at page 16 and following of the United States' Memorandum challenging the existence

of Cowhorn Island has already been treated, Louisiana Brief, at 102-114.

Map and Chart Problems

In a further effort to overturn the findings of fact on Cowhorn Island and at Pass du Bois (see U.S. Exception No. 2) by the Special Master, the United States argues that the Set of 54 Maps was prepared by the State of Louisiana and the United States in 1959 for the purpose of this litigation. This statement is not accurate. The Set of 54 Maps was prepared to determine the high and low-water lines along the coast of Louisiana prior to this litigation. At the commencement of the hearing before the Special Master, the United States and Louisiana stipulated that the Set of 54 Maps could be used in the hearing and correctly represented the present high and low-water lines along the Louisiana coast, with certain reservations. Where these reservations were made, large-scale charts officially required by the coastal states were to be looked to in order to determine the location of the low-water line. One of the reservations shows the Cowhorn Island area. The United States questions the Special Master's use of Coast and Geodetic Surveys represented by the 1200 Series of Charts to locate the low-water line along Cowhorn Island.

To understand the stipulation and reservations the Court must consider both Sections A and B of the Statement of Issues. Section A is Appendix A-1 to the Special Master's Report. Section B is Appendix B to the United States' brief.

In referring to Section A-6 of Section A (Report, at 58), it is interesting to note at the area from South Pass to Southwest Pass, East Bay is described both by United States Coast and Geodetic Chart No. 1262 and maps 5-6 of 8 of Louisiana Exhibit 119, at 11-13, and the issues are stated as follows:

> 6. From South Pass to Southwest Pass: East Bay. (U.S.C. & G.S. Chart No. 1272; Maps 4-6 of 8, La. Ex. 119 pp. 11-13.)
>
> (a) What are the means of proof recognized by the Convention on the Territorial Sea and the Contiguous Zone for ascertaining whether particular elevations are above the level of mean low water?
>
> (b) Does the Convention on the Territorial Sea and the Contiguous Zone control the kind of evidence that may be introduced in this case to identify low-water lines?
>
> (c) Is Louisiana entitled to submerged lands measured from such low-tide elevations or low-water lines as shown on Chart No. 1272 adjacent to South Pass but not shown on Map 4 of 8, irrespective of evidence to the contrary?
>
> (d) Are there low-tide elevations or low-water lines in East Bay adjacent to South Pass not shown on Map 4 of 8 but shown on Chart No. 1272?
>
> (e) Have there been changes in the coast line that would affect the future distribution of revenues heretofore accrued since June 5, 1950 and, if so, when did the changes become effective?
>
> (f) Within East Bay, are there any bays as

defined by Article 7 of the Convention on the Territorial Sea and the Contiguous Zone and, if so, where are their natural entrance points? Report, at 58.

In Part B, at 35, of United States' Brief, the parties accepted the Set of 54 Maps as the correct representations of the present low and high water lines, with certain exceptions. As to the excepted areas, there is no presumption of the correctness of the 54 Maps. As to the affected areas, the parties were entitled to show the low-water lines on charts recognized by the Convention as correctly found by the Special Master. In part B (d) Louisiana made the following reservations:

> (d) Louisiana reserves the right to show that in the area of East Bay, seaward of the mean low-water line reflected on Map 4 of 8, in addition to said mean low-water line there is an additional mean low-water line configuration which is marked on official large scale charts officially recognized by the United States, and which should be given full effect by the Master;
>
> (e) Louisiana reserves the right to show that islands or low-tide elevations exist south of the mouth of South Pass that were not reflected on Map 4 of 8;
>
> (f) It is agreed that the y coordinate of the mudlump east of Pass a Loutre, shown on Map 2 of 8, La. Ex. 119 p. 9, as x=2,754,100, y=189,915, should be y=186;915.

This agreement to accept as correct the water lines shown on the set of 54 maps does not preclude the parties from introducing evidence, not

inconsistent with those maps, of geological, physical, or other facts, including but not limited to water depths, *inland portions of water lines left incomplete on the set of 54 maps, particularly inclusion of tributary waters in measurements for the semicircle test*, and conditions that existed prior to the surveys on which the 54 maps were based. Also, the parties may show the history and usage of these areas. Neither will acceptance of the 54 maps for the purpose stated preclude the parties hereafter, on future motions for entry of further supplemental decrees to have only prospective effect, from showing changes from the conditions on the 54 maps. Neither does this agreement imply that the parties accept as correct the methods used in making the 54 maps. (Emphasis added.)

From the above, it is clear that both Louisiana and the United States reserved rights to show low-water lines in particular areas on large-scale charts. There was no agreement or understanding that the Set of 54 Maps had any effect in the excepted area. This is the basis on which the case was tried as found by the Special Master in his Report. The Set of 54 Maps and the charts were all prepared by some department of the United States.

This is the reason the Special Master made the following finding:

> However, for purposes of this litigation the parties have stipulated that the applicable high and low-water lines shown on a set of 54 maps filed with the Special Master may be taken as correct, except where the right is specifically reserved

by one of the parties to show otherwise. In most cases, therefore, it is unnecessary to go beyond these maps to establish the low-water line along the Louisiana coast. Where this reservation has been made, large-scale charts officially recognized by the coastal state are to be looked to in order to determine the location of the low-water line. There appears to be no dispute that a chart whose scale is 1 to 80,000 or larger is a large-scale chart within the meaning of the convention. However, it appears that even these large-scale charts are not conclusive in every instance. For example, in Note 48 to the second *Louisiana* opinion (394 U.S. 11, 40-41), the Court specifically leaves to the Special Master the determination as to the existence or non-existence of certain islands located within Atchafalaya Bay, and also an artificially created spoil bank at Pass Tante Phine, just to the north of West Bay. Some of these formations appear on large-scale charts officially recognized by the coastal state and yet the Court indicates that their actual existence may be questioned. Therefore, the Court must be saying as a general principle, as insisted by the United States, that at least in certain instances the Special Master may look beyond the charts of the area involved to the actual facts. If the United States is to have the benefit of this rule, it would appear that the State of Louisiana should also have that benefit in areas where it has reserved a special exception to the accuracy of the set of 54 maps, and where the departure from the large-scale charts of the area, if it exists, is so substantial as to affect materially the location of the coastline. (Report, at 24, 25).

There were many discussions during the trial concerning the 54 Maps, none of which justify the position by the United States.[28]

Incidentally, the drawings used by the United States in its arguments are not based on the Set of 54 Maps. Contrary to the impression given in the United States Memorandum, at 8, that the government was urging the Court to reach its conclusions on the basis of the physical situation on "stipulated maps." The government drawings materially departed from the stipulated maps, *e.g.*, the absence of any island at the mouth of South Pass. Much else in the government arguments makes the total arguments highly unconvincing. For example, the objections to the use of the 1200 series charts[29] includes the objection that they are not sufficiently large scale to reflect all necessary detail. Yet, when the government is trying to have this Court reverse the Special Master's findings on the detail of headland selections, the government takes the charts and reduces them to a much smaller scale, eliminating detail, and suggesting the record should not be examined.

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[28] See tr. 4530 of threat of United States to withdraw alleged concession of Chandeleur Sound and Breton Bay unless Louisiana amended stipulation. See record for discussion concerning stipulation, Tr. 4525-4545; Tr. 4658-4665; Tr. 2488-2507, 6421, 6435, 5599, 5667, 5668, 2740 and 6095.

[29] The government here was really objecting to use of the Convention for Article 7 (3) requires use of charts.

UNITED STATES EXCEPTION NO. 2 (PASS DU BOIS)

The evidence on the Special Master's findings of fact here is treated under Louisiana Exception 5, and in the discussion of Cowhorn Island matters. See Louisiana Brief, at 102 *et seq.*, and 144 *et seq.*

See also discussion of the map stipulations *supra*, in response to U. S. Exception No. 2.

UNITED STATES' EXCEPTION NO. 3 (ASCENSION BAY)

The United States excepted to the findings of fact by the Special Master that the Ascension-Caminada-Barataria Bay Complex constitutes an overlarge bay. (Section III (6), Report, at 45-48). The finding of fact by the Special Master reads as follows:

> All of the evidence in the record indicates that [Ascension Bay constitutes an over-large bay]. Certainly its waters are landlocked, or, as sometimes described, *Inter Fauces Terrai*, within well marked natural entrance points. This is supported by the ratio of its depth of penetration to the width of its mouth, for it is almost perfectly semicircular in shape, the classic form of a bay. In this respect, it bears a startling resemblance to Monterey Bay, which was held to be a true bay in the California case.

This finding resulted from extensive evidence introduced both by the United States and Louisiana before the Special Master.

The United States realizes, in order to succeed with this exception, it must have the Court overturn its holding in the 1969 opinion:

> We have concluded, on the other hand, that the area of "Ascension Bay" does include the Barataria Bay-Caminada Bay complex and therefore meets the semicircle test. Those inner bays are separated from the larger "Ascension Bay" only by the string of islands across their entrances. If those islands are ignored, the entrance to Barataria and Caminada Bays is sufficiently wide that

those bays and "Ascension Bay" can reasonably be deemed a single large indentation even under the United States' approach. Article 7(3) provides that for the purposes of calculating the semicircle test, "[i]slands within an indentation shall be included as if they were part of the water areas of the indentation." The clear purpose of the Convention is not to permit islands to defeat the semicircle test by consuming areas of the indentation. We think it consistent with that purpose that islands should not be permitted to defeat the semicircle test by sealing off one part of the indentation from the rest. Treating the string of islands "as if they were part of the water area" of the single large indentation within which they lie, "Ascension Bay" does meet the semicircle test. 394 U.S. 11, at 52-53. *Cited in* Report, at 45, 46.

What the United States is arguing is that the Court must first look at Ascension Bay, disregarding the Caminada-Barataria Bay Complex and the screening islands and only then, if the area is determined an overlarge bay, should the Court consider the Caminada-Barataria Bay Complex (and the screening islands) as water areas in determining whether Ascension Bay meets the semicircle test as an overlarge bay. See United States' Memorandum, at 26 n. 28. This same argument was advanced and rejected by the Court in its 1969 opinion.

Noting the weakness of this argument, the United States urges the Court to overrule the Special Master's findings without reference to the record and based solely on Drawings 5 and 6 in its brief. These drawings

do not fully and accurately portray the total bay area as we will demonstrate in this memorandum.

An effort to sustain this argument was advanced in 1968 and was rejected by this Court in the 1969 opinion. See the Memorandum in Support of the Motion of the United States for Entry of A Supplemental Decree as to the State of Louisiana (No. 2), where the United States stated at 73:

> To qualify as inland waters under Article 7 of the Convention, a bay must be "a well-marked indentation." [30] This means that it must have unity of configuration.

The United States then[31] went on to argue that the inner bays were distinct entities sharing no unity of configuration with the outer waters. These remarks occurred in the context of an additional argument that the absence of unity of configuration was fatal to Louisiana's semicircle test claims. The argument at page 73 of the memorandum continued:

> The test could be met only by combining the area of those waters with the waters of the inner bays —Caminada, Barataria, Bastian, and others— whose entrances breach this section of the shore. Such combination is not permissible where, as here, the inner bays are distinct entities, almost

[30] Dr. Hodgson, the Geographer of the Department of State, later testified before the Special Master: "It [Ascension Bay] is certainly a well marked indentation of the coast." Tr. 5359. This testimony by the Government's principal technical expert amply contradicts the Government arguments made in 1968 and now reiterated, United States' Memorandum, at 28-29.

[31] In 1968.

completely shut off from the open waters of the Gulf and sharing *no unity of configuration with those waters*. In applying categorical legal concepts to the infinite variations of actual geography, there are often situations where there is room for differences of opinions; but it is hard to imagine any situation that would present a clear example of well-defined inner bays almost completely isolated and utterly distinct from the open waters outside their entrances. (Emphasis added.)

In answer to this argument, this Court, in its 1969 opinion, said:

> But [the United States] denies the existence of any rule that *all* tributary waters are so includible. Article 7(2), it emphasizes, refers to "that indentation." The inner bays can be included, therefore, only if they can reasonably be considered part of the single, outer indentation. And that cannot be said of inland waters which, like the Vermilion Bay and Barataria Bay-Caminada Bay, are wholly separated from the outer body of water and linked only by narrow passages or channels.
>
> For purposes of this lawsuit, we find it unnecessary to provide a complete answer to the question posed by the parties. 394 U.S. 11, at 51, 52. (Emphasis in original.)

It was after this statement when this Court held:

> We have concluded, on the other hand, that the area of "Ascension Bay" does include the Barataria Bay-Caminada Bay complex. . . . If [certain islands which the Court found should be ignored] are ignored, the entrance to Barataria and Caminada Bays is sufficiently wide that those bays and "Ascension Bay" can be reasonably be deemed a single large indentation *even under the United States approach*. 394 U.S. 11, at 52, 53. (Emphasis added.)

Even Dr. Hodgson admitted that Ascension Bay was a well marked indentation. (Tr. 5379).

This Court, in reaching the above holding on Ascension Bay, quoted with approval a paragraph from the Sovereignty of the Sea by Dr. G. Etzel Pearcy, which reads as follows:

> [T]he water of bays within bays may be included as water surface of the outer bay in determining the dimensions of any coastal indentation. Sovereignty of the Sea, United States State Department Geographic Bulletin No. 3, p. 11 (1965). *Quoted in* 394 U.S. 11, at 51.

Dr. Pearcy's observations were not limited to bays within bays of coastal indentations whose inner bays undefined by "geographic" standard are formally part of the outer indentation. The publication of the State Department expressed Dr. Pearcy's opinion that such inner bays' waters may be included in determining the dimensions of *any* coastal indentation. We repeat, *any* coastal indentation. Note that Dr. Pearcy's remarks were *not* confined to the semicircle test but related to determining the dimensions. This would include semicircle test considerations, but not be limited to it.

There is no bay that we have found which any

court has determined to have satisfied the semicircle test requirement, but which has been held by the court not to satisfy other Article 7 criteria.

Comparison of Ascension Bay with Monterey Bay

The Master was correct in comparing Ascension Bay to Monterey Bay. After fully quoting the entire text of Article 7 in its footnote, this Court, in the *California* case, stated:

> Applying these tests to the segments of California's coast here in dispute, it appears that Monterey Bay is inland water and that none of the other coastal segments in dispute fulfill these aspects of the Convention test [referring to the 24 mile line and semicircle aspects of the Convention test]. We so hold. *United States v. California*, 381 U.S. 139, at 169-70.

The decree entered in the *California* case recognized Monterey Bay as inland waters. 382 U.S. at 450. Figure R-8 is a graphic exhibit Louisiana has prepared to compare the configuration of Monterey Bay with Ascension Bay, which was considered by the Special Master. Actually the base map of the graphic exhibit does not adequately reflect the full extent of the waters entering into the complex, *e.g.* waters north of Little Lake are not shown. Also, the watery, quasi-land nature of the areas shown as land on this small-scale map does not adequately appear. Thus, the comparison is even more markedly in favor of Ascension Bay than the illustration suggests. The base map is from an exhibit employed in the brief before this Court

which led to the 1969 *Louisiana Boundary Case* opinion. 394 U.S. 11. It had the Grand Isle-Grand Terre Islands which lie between Caminada and Barataria Bays and the outer part of Ascension Bay removed to graphically reflect the concept of Article 7 (3) which states in part,

> Islands within an indentation shall be included as if they were part of the water area of the indentation.

The validity of application of that concept to the Grand Terre-Grand Isle situation in Ascension Bay was recognized by this Court in the 1969 decision:

> We have concluded, on the other hand, that the area of "Ascension Bay" does include the Barataria Bay-Caminada Bay complex. . . . 394 U. S. 11, at 52.

See also La. Exh. 104 (Tr. 2818) for a color copy of the base map used in Figure R-8 distinctly showing how Barataria and other inner waters form part of Ascension Bay. The base map is from a small-scale map, and available small-scale maps had not been revised to show the extent of massive subsidence and increased water area of inner bays. The comparison is therefore biased in favor of the United States' position. Also, for purposes of argument, we have placed Monterey Bay's mouth approximately at the mouth of Ascension as claimed by the Federal Government.

The comparison greatly favors Ascension Bay as notations on Figure R-9 show. Results would not materially differ if Louisiana's closing line claim em-

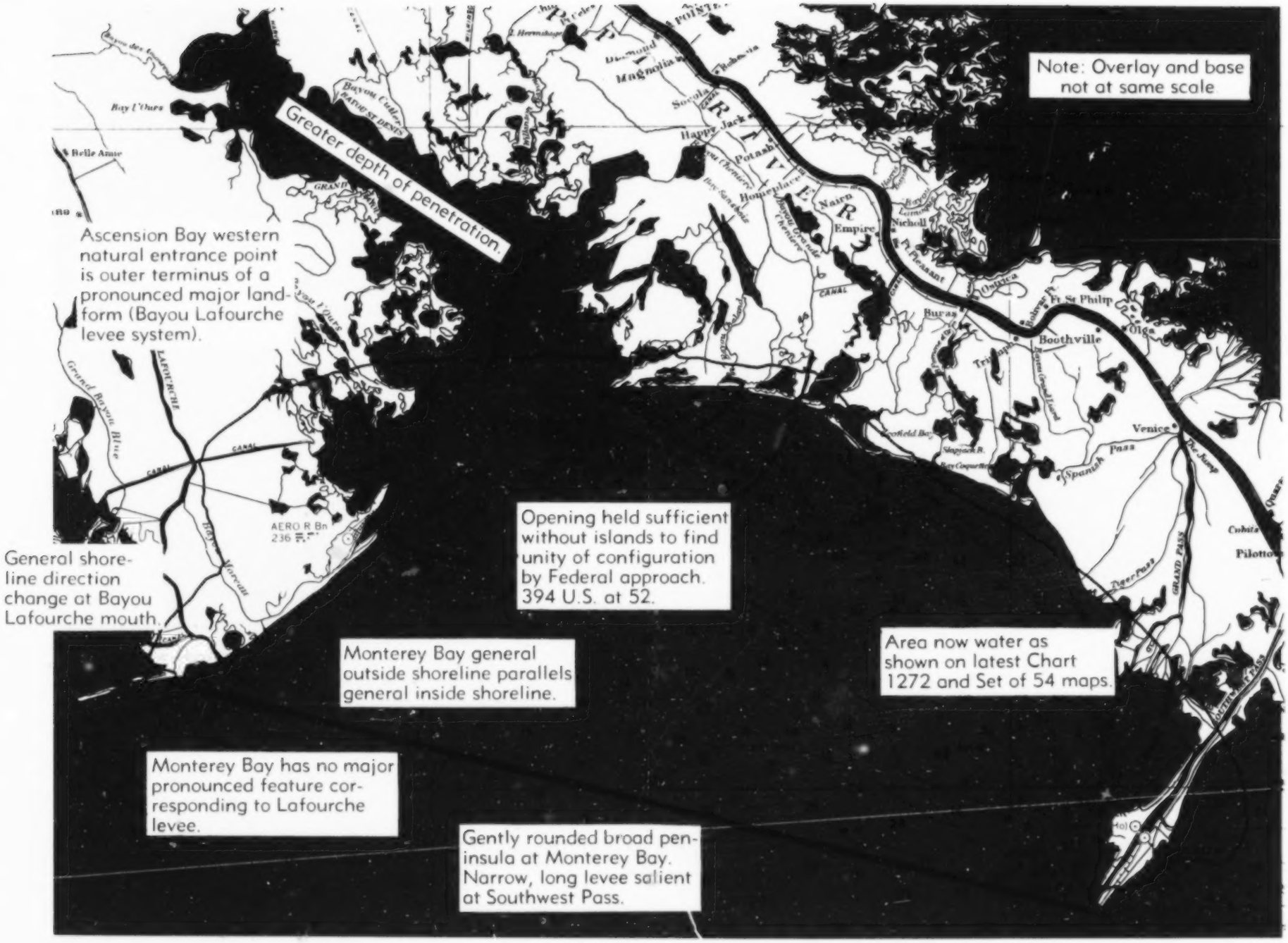

Note: Overlay and base not at same scale.
Greater depth of penetration.
Ascension Bay western natural entrance point is outer terminus of a pronounced major land-form (Bayou Lafourche levee system).
General shore-line direction change at Bayou Lafourche mouth.
Opening held sufficient without islands to find unity of configuration by Federal approach. 394 U.S. at 52.
Monterey Bay general outside shoreline parallels general inside shoreline.
Area now water as shown on latest Chart 1272 and Set of 54 maps.
Monterey Bay has no major pronounced feature corresponding to Lafourche levee.
Gently rounded broad peninsula at Monterey Bay. Narrow, long levee salient at Southwest Pass.

Figure R-9. General summary of major aspects of Monterey Bay and Ascension Bay graphic comparisons.

ployed using the red line shown on La. Exh. 104 (Tr. 2818).

As to the configuration of Monterey Bay superimposed upon a small map of Ascension Bay area, it should be noted that the size of Ascension Bay is not in fact the same at its mouth as Monterey Bay. The scale of the superimposed configuration of Monterey Bay was modified to facilitate the graphic comparison and render the mouths of equal length on the illustration. See size discussion below.

Comparison of Ascension Bay with Unnamed Alaskan Bay in United States Exhibit 416 D

United States Exhibit 416D was a last-second introduction made over the objection of Louisiana after the end of Louisiana's Baton Rouge rebuttal presentations. (See Tr. 6414-6427) It is replete, upon close study, with many examples of approaches employed by the interdepartmental committee (which included Dr. Hodgson, whose applications the committee approved "provisionally") that are contradictory to opinions expressed by Dr. Hodgson or taken by the United States in these oil proceedings. We persist in our objections to the total exhibit, but use features of the exhibit to show how inconsistent the United States' position is on bay closure lines.

A particular map illustrative of the contradictory impact of U.S. Exh. 416D (Tr. 6427) is chart 9475, found as the fourth chart near the end of the volume of maps comprising the exhibit. Part B of Figure R-10 on the following page reflects the configuration and

Figure R-10. Comparison of the configurations of (A) Ascension-Barataria Bay (from La. Exh. 104 (tr. 2818) with "screening islands" reconstructed within the bay) and (B) an unnamed bay in Alaska, the closing line of which is taken from U.S. Exh. 416D (tr. 6427), Chart 9475.

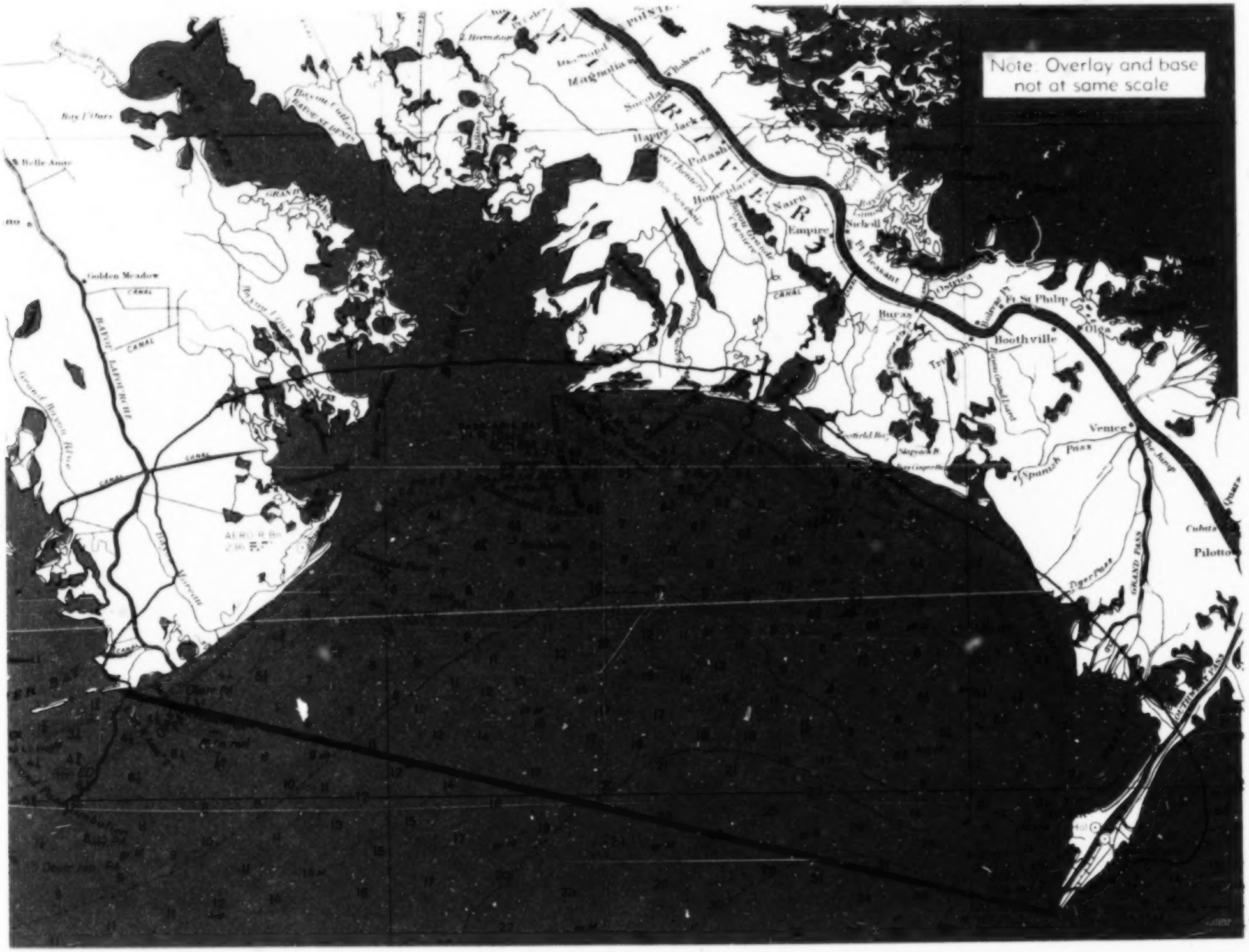


Figure R-8. Superimposition of Monterey Bay with bay closure recognized in decision of United States v. California, 381 U. S. 139 (1965), and in the decree, 382 U. S. 448 (1966) on a portion of a base map employed in La. Exh. 104 (tr. 2818) entitled "Ascension Bay-Barataria Bay Complex as it appears with islands removed to show the actual area of the bay under Article 7 of the Geneva Convention" and showing the outermost proposed overlarge bay closing line. See also Sheet 48 of La. Exh. 21 (tr. 355-356).

closing line recognized for an unnamed bay in Alaska found on chart 9475; Part A of the figure shows the general configuration of the Ascension-Barataria Bay area with the Grand Terre-Grand Isle area reinserted. Of course, due to scale matters and base map limitations, the full extent of water area of Part A of Figure R-10 is not adequately shown thereby making the exhibit conservative in its effect.

The parallel between the two configurations is striking, with one exception which is discussed below. The most obvious common feature is that both configurations have an island situation separating inner and outer parts of a similarly shaped indentation. In Alaska, this did not deter recognition of the indentation as a bay by Dr. Hodgson and other Federal Government experts. It should not deter recognition of Ascension Bay as a bay. It certainly did not deter the Special Master.

Like treatment for Alaska, California, and Louisiana would accord with the spirit of a single coast line for administration of the Submerged Lands Act. See 394 U.S. 11, at 34, *quoting*, *United States v. California*, 381 U.S. 139, at 165.

Ascension Bay — More "Well-Marked" Than Two Recognized Bays

An exception to the similarity of Ascension Bay to other recognized bay configurations relates to the more well-marked character of Ascension Bay. This observation is valid for comparisons to both the Alaskan bay, shown in Part B of Figure R-10 and Monterey

Bay, outlined on top of Ascension Bay in Figures R-8 and R-9.

At the left side of the map on Part B of Figure R-10 and on Figures R-9 and R-8 there is a less-pronounced or well-marked terminus or natural entrance point in these recognized bays (the Alaskan bay and Monterey Bay) than is present for Ascension Bay. The shoreline in Part B of Figure R-10 (the Alaskan Bay) is relatively smooth and extends well below the left terminus. The same comment applies to the Monterey Bay outline superimposed on Figure R-9. Contrast the landform bounding or marking the left side of the Ascension bay indentation. It terminates rather sharply by comparison, swinging west, thus marking the limit of the indentation much more clearly and precisely than on either of the other two indentations compared thus far. The only feature at Monterey Bay that is arguably more favorable to Monterey Bay is the fact that its shoreline swings in slightly more sharply inside of the closing line but as the Alaskan Bay feature plainly demonstrates (at the left side of Part B of Figure R-10), such a feature is certainly not required. Like Ascension Bay (see West Bay area at Southwest Pass) the Alaskan Bay does have a concavity to the right side of the map (see right side of Part B of Figure R-10). The main difference between the Southwest Pass configuration and the West Bay configuration compared to the right side of the Alaskan Bay relates to the much more sharply marked character of Ascension Bay. The Southwest Pass configuration is a more pronounced or identifiable salient with a much more

sharp, or identifiable apex; it is obviously much more well-marked; and the concavity formed by West Bay is much more penetrating, especially when erosion of recent decades is considered.

When more recent map information is taken into account, Ascension Bay is even more strongly landlocked and sharply identifiable than Monterey Bay. See *e.g.*, Figure R-11, a reproduction of an earlier graphic comparison with additional water area added to reflect areas now substantially eroded as shown on the Set of 54 Maps and latest charts. Undoubtedly even more area has eroded by now.

Other details of the comparison show a striking similarity between Ascension Bay and the unnamed but recognized Alaskan bay in Figure R-11. There is an elongated landform on the right side. There are on both the left and the right sides of the inner part of the indentation similarly shaped features with an island screening situation separating outer and inner parts.

The above has shown some of the more bay-like characteristics of Ascension Bay by comparison to recognized bays, especially its more "well-marked" "landlocked" nature. We now turn to a difference the United States apparently claims causes Ascension Bay to *not* qualify as a bay.

In answer to the United States' argument as to size

The mouth of the Ascension Bay complex from

Southwest Pass to the mouth of Bayou Lafourche is approximately 43 nautical miles in width, whether the United States' artificial entrance point position or Louisiana's natural entrance point position is used. See La. Exh. 104 (tr. 2818) and testimony of Mr. Whitaker, tr. 3966 *et seq.* In our research of legal materials, we sought examples of bays for either negative or positive comparisons to deal with federal contentions as to the impact of this 43-mile size. We found no example in either the jurisprudence nor in the legal literature suggesting that any particular indentation of 43 nautical miles at its mouth was *too large* to be considered an overlarge indentation although it had shape characteristics comparable to smaller, recognized bays. We did, however, find striking examples of indentations with mouths as large as or larger than a 43-mile mouth to which the overlarge bay concept of Article 7 (5) was applied, under circumstances where configuration was either comparable or even less bay-like than Ascension Bay.

Comparison of Ascension Bay with Moray Firth

Ascension Bay compares quite favorably with Moray Firth which was involved in the Moray Firth litigation of 1906. The U.S. Navy authority, Commander M. P. Strohl, utilized Moray Firth in *International Law of Bays*. Figure 15 of that work is an illustration of an indentation to which the overlarge bay concept would be applied. That illustration is produced *infra*, as Figure R-12 of this brief. The line from Duncansby Head to Rattray Head was recognized as a line

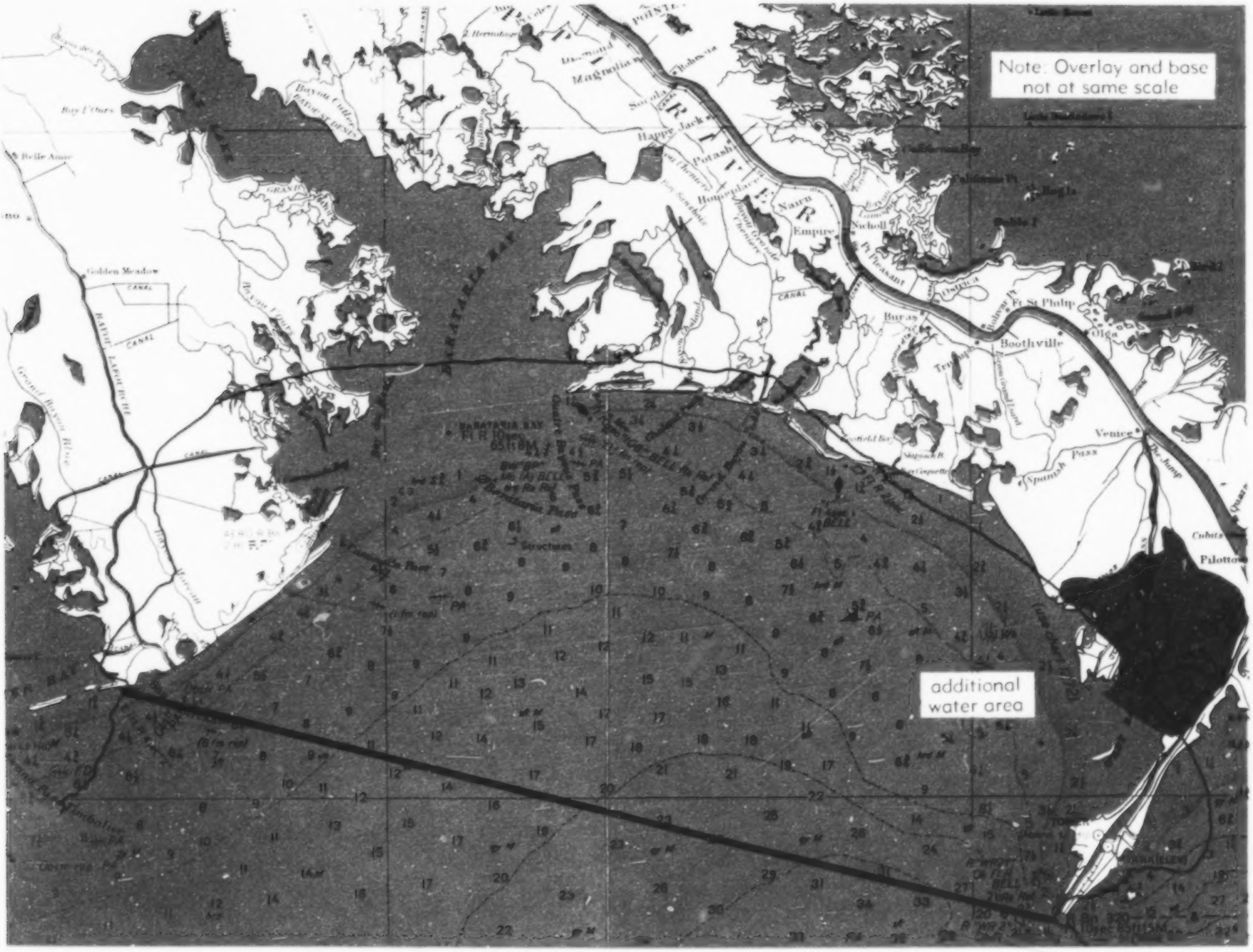


Figure R-11. Reproduction of exhibit comparing Monterey and Ascension Bays with modifications in West Bay area to conform generally to additional area which is now substantially water as reflected by Maps 5 and 7 of the Set of 8 of the Set of 54 Maps (reduced-size copies in La. Exh. 353 (tr. 6404)) and 25th edition of Chart 1272 (August 15, 1970), U.S. Exh. 362 (tr. 6365).

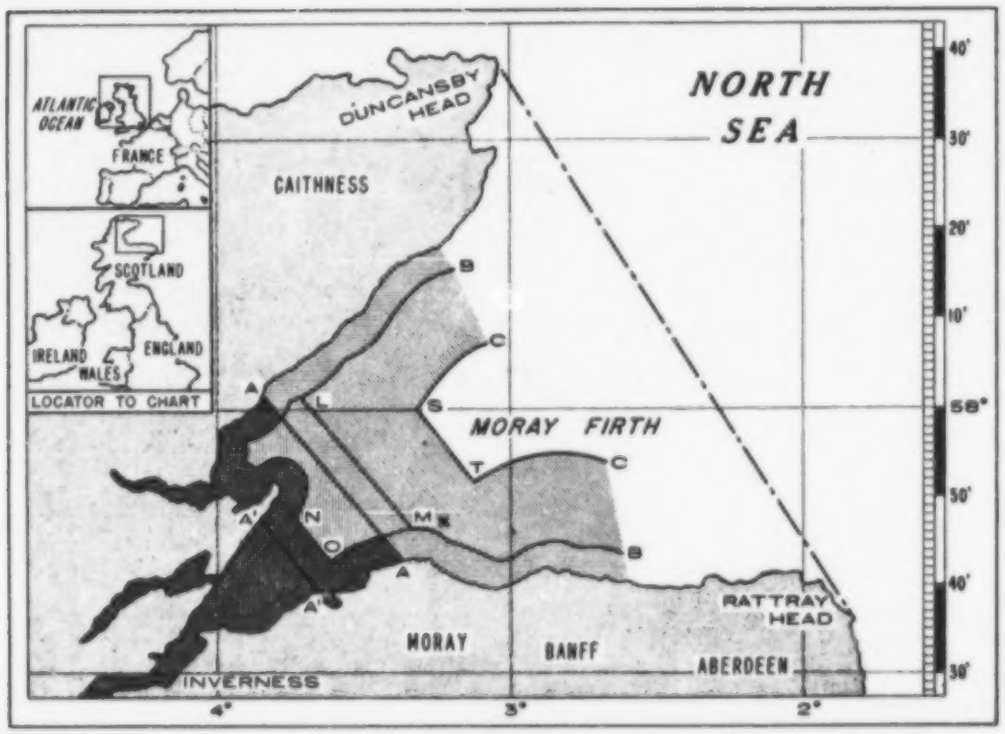


Figure R-12. Reproduction of Figure 15 from Commander Mitchell P. Strohl's book, *The International Law of Bays*, showing the 73.5 mile closing line between natural entrance points of Moray Firth, Scotland.

MORAY FIRTH, SCOTLAND

FIG. 15

LEGEND

AA – 24-mile closing line.
BLMB – Outer limit of 3-mile marginal belt using 24-mile closing line.
A'A' – 10-mile closing line.
BLNOMB – Outer limit of 3-mile marginal belt using 10-mile closing line.
CSTC – Outer limit of 12-mile marginal belt using 24-mile closing line.
– – – –Line *inter fauces terrae*, as described in Moray Firth Case of 1906.
X – Site of alleged offense of Emmanuel Mortenson in Moray Firth Case of 1906.

"inter fauces terrae" or, "within the jaws of the land." Rattray Head and Duncansby Head are both less pronounced, less identifiable than either the mouth of Bayou Lafourche or Southwest Pass. A graphic comparison demonstrates this. We have taken the shoreline from Part A of Figure R-10 in the comparison of Ascension-Barataria Bay to an unnamed Alaskan Bay and compared it to the graphic representation of Moray Firth contained in the *Strohl* illustration, Figure R-12, labeling the resultant comparative exhibit as Figure R-13. The illustration from Commander Strohl's book was modified to eliminate details irrelevant to a comparison of shoreline configuration. The Moray Firth shoreline appears as a heavy black line, as do the closing lines of both Moray Firth and Ascension Bay. The federal unnatural entrance point closing line is used *arguendo only* on all of these comparative exhibits merely to avoid argument, and not in recognition of any propriety of using artificial entrance points. Results do not differ if natural points are used. The scale of the maps in Figure R-13 was modified in order to show the graphic comparison conveniently. The Moray Firth shoreline outline was reproduced and then superimposed upon Part A of Figure R-13. The Moray Firth shoreline on the illustration has a mouth on the map (not in true distance) approximately comparable in width to that of Ascension Bay, thus permitting comparison to focus purely upon configuration rather than size considerations. *In fact, the mouth of Moray Firth is markedly larger than the mouth of Ascension Bay. As shown in Figure R-12, the reproduc-*

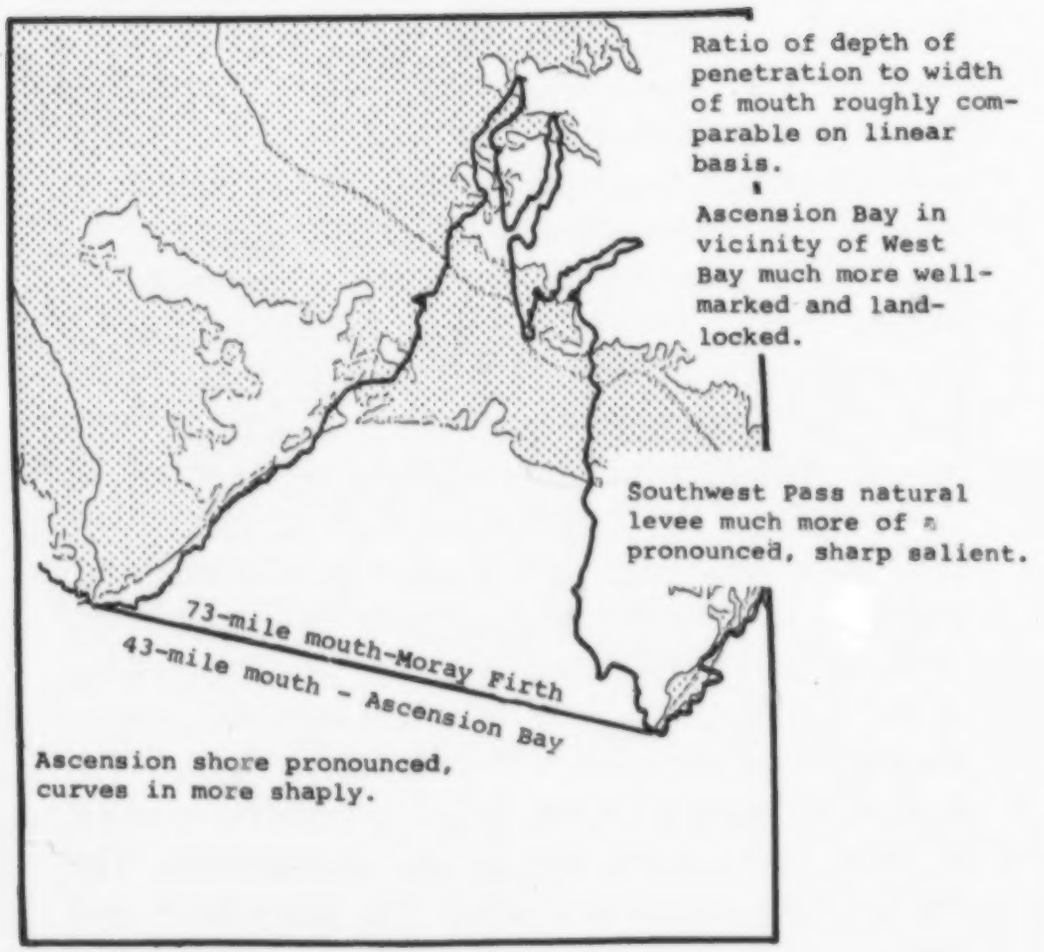

Ratio of depth of penetration to width of mouth roughly comparable on linear basis.
Ascension Bay in vicinity of West Bay much more well-marked and land-locked.
Southwest Pass natural levee much more of a pronounced, sharp salient.
73-mile mouth-Moray Firth
43-mile mouth - Ascension Bay
Ascension shore pronounced, curves in more shaply.

Figure R-13. Ascension Bay-Moray Firth.

tion from Commander Strohl's book, the Line found to be Inter Fauces Terrae as described in the Moray Firth Case of 1906 is 73.5 miles wide. Proceeding from the left side of the illustration, several aspects of the comparison are apparent. First considering the natural entrance point at the left side, the Bayou Lafourche landform is decidedly more pronounced than the Rattray Head landform of Moray Firth. Note how the shoreline of Rattray Head almost parallels the closing line of what was considered *inter fauces terrae* to the left of the left Moray Firth natural entrance point. As we leave that left natural entrance point again, the angle of the shoreline of Ascension Bay turns inward more sharply than that which is to the right of the *inter fauces terrae* closing line of Moray Firth. The direction of the shoreline parallels part of the shore southwest of Caminada Pass.

The principal difference in the configuration of Moray Firth becomes that of the angles at which the inner waters lie. In Ascension Bay the inner waters (only partly shown—see La. Exh. 104, tr. 2818, for a more complete view of the full extent of the tributary waters of Ascension Bay) turn to the left, whereas they penetrate more at right angles in the case of Moray Firth. That this is a distinction without a difference is apparent from the Supreme Court's treatment of Vermilion Bay, which also lies much to the left of the closing line in front of Atchafalaya Bay. Yet the Court treated it as associated not with outer Vermilion Bay but with Atchafalaya Bay. See 394 U.S. 11, at 52:

> Yet Vermilion bay is itself a part of the much larger indentation which includes West and East Cote Blanche Bays and Atchafalaya Bay, and which opens to the sea between Marsh Island and Point au Fer.

Of course, the ultimate proof of the irrelevancy of that difference is the Supreme Court finding as to Ascension Bay itself:

> We have concluded, on the other hand, that the area of "Ascension Bay" does include the Barataria-Caminada Bay complex. . . . *Ibid.*

Comparing the eastern, or on the map the right, side of Ascension Bay with the right side of Moray Firth, shown on the overlay, it is evident that the major differences are that Ascension Bay curves in more and has more sharply pronounced natural entrance point on its right side, characteristics that quite favorably show that Ascension Bay with its width of 43 nautical miles as its mouth has in this respect even more land-locked bay-like character than Moray Firth, but such a "side pocket" is unnecessary. Of course, the landform at Southwest Pass is much more pronounced than the Duncansby Head landform. At this point, it should be noted in explanation of these graphic aids that for closing line comparison purposes we have used what we assume is the United States' position—utilization of jetties as at Southwest Pass, rather than using the truly natural entrance points of the indentation. This is not to be construed as any recognition of the correctness of the utilization of artificial entrance points and is merely an assumption *arguendo* to avoid irrelevant contentions. However, we are sure that the results of the analysis made above would not be materially different if one were to use the "hump" at Southwest Pass instead of the jetties.

Comparison of Ascension Bay to the Thames Estuary Bay

Another strikingly interesting bay for comparison with Ascension Bay is the Thames Estuary bay. This is the subject of the opinions styled *Post Office v. Estuary Radio, Ltd.* 3 All E.R. 663 (1967). Measurement information was given.

> The diameter of the semi-circle from North Foreland to Orford Ness is *42.02 sea miles*. *Id.* at 667.

This is remarkably close to the closing line distance of 42.78 nautical (sea) miles or 43.42 nautical miles depending upon whether an outer or an inner closing line is used for Ascension Bay. See the table reflected on the first map La. Exh. 104 (tr. 2818). This adds interest to a comparison of the relative characteristics of these indentations. Figure R-14 shows two closing line contentions for the Thames Estuary (a third contention, Orford Ness to Foreness Point, is near line 1 and was not shown to avoid unnecessary complexity.) involved in the *Thames Estuary Case.*

Data on semicircle test measurement information for the Thames Estuary is reflected in 3 All. E.R. 663, at 667. The hypothetical semicircle for Closing Line 1 (North Foreland to Orford Ness) calculated area was reported at 693.380 square sea miles. The area of the water enclosed by that line was less than the hypothet-

ical area by 1.630 square sea miles. Another shorter line, Orford Ness to Foreness Point, met the semicircle test only by counting waters 84 miles upstream. See 3 All E.R. at 673 *et seq.*, where the trial court discussed and approved this area measurement, and discussion of area measurement in Louisiana's Exceptions to the Report of the Special Master, Argument III. In the case of Ascension Bay, as the data in La. Exh. 104 proved by the testimony of the engineer, Mr. Whitaker, tr. 3966 *et seq.* reflects, there is much more ease in satisfying the semicircle test. Closing Line 1 on La. Exh. 104 has a hypothetical semicircle of 610,053 acres and the area measured (not bothering to count all tributaries, certainly not going up stream 84 miles) exceeded that hypothetical semicircle by 126,927 acres. This is in excess of approximately 20% in the case of Ascension Bay. Compare this to the Thames Estuary line which barely failed the test at Closing Line 1 and which required going 84 miles upstream to satisfy the test for a line very near Closing Line 1, which the trial court approved as satisfying the "well-marked", "landlocked" standards of the Convention.

Comparing Closing Line 2 of the Thames Estuary with Ascension Bay, at the left side the natural entrance point of Ascension Bay is more clearly a pronounced geographical feature or headland than is Foreness Point. On the right side, the Southwest Pass levee system is a much more pointedly shaped and well-marked feature than the Naze. An interesting comparison of the Naze with Bayou Lafourche natural entrance Point of Ascension Bay can be made, however,

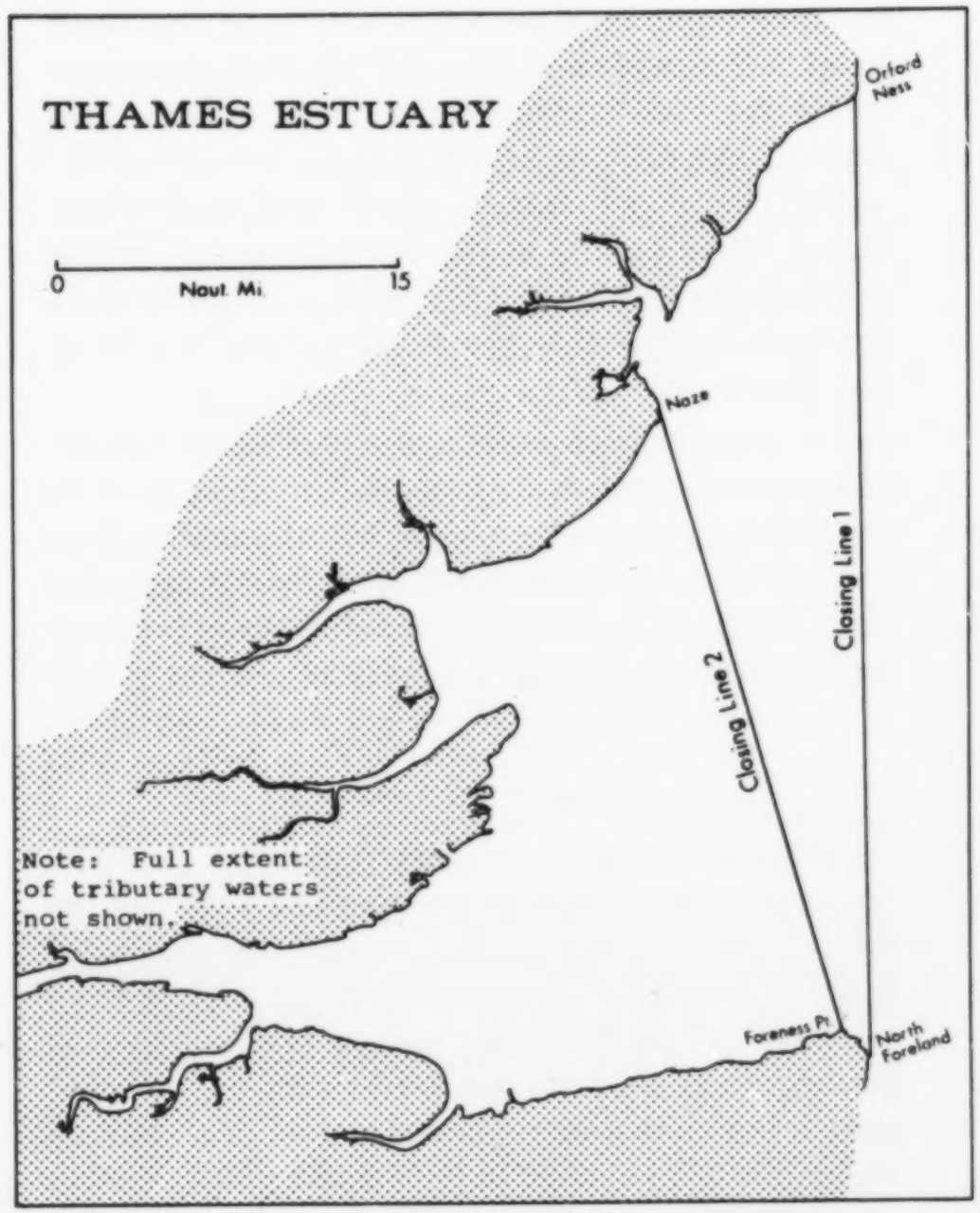


Figure R-14. Thames Estuary closing lines.

which shows very close comparability of the Bayou Lafourche mouth as being a well-marked natural entrance point as determined by the precedent of the Naze. If one reverses an overlay and superimposes it on the Naze, it is apparent that the angle of the shoreline of Ascension Bay at Bayou Lafourche in relation to the closing line is about the same as the angle of the shoreline in relation to Closing Line 2 at the Naze in the Thames Estuary.

A point of likeness between the Thames Estuary and Ascension Bay area is the way in which their inner tributary waters tend to the left of the map. However, except to preclude conceivable federal argument about a distinction which made no difference, as discussed *supra*, this is not highly significant.

Of "C's", "V's", and "O's" — Some Hypothetical Graphics

We are told by the United States that Ascension Bay is not a bay because it is shaped like a "C", *i.e.*, essentially semicircular. As we have demonstrated *supra*, it is not essentially semicircular. It has a pronounced "side pocket" at West Bay and its relative depth of penetration is markedly greater by graphic inspection since it has more deeply recessed waters than the most recognized of recognized bays, Monterey Bay, which is essentially semicircular or "C" shaped as hereafter shown. But then, it is implied by United States' argument that if a bay has deeper penetration than a "C" to the point that it attains a "V" shape instead of a "C" shape, it is not a bay either. It seems that the only

shape that would satisfy government argument is an "O". Such a waterbody is completely landlocked in the geographic sense.

In fact, a shape that is essentially like a "C", which does no more than satisfy the semicircle test (*but also meets the additional "well-marked" requirement of identifiable headlands*, as required by 394 U.S. 11, at 54) satisfies the "landlocked" legal standard of the Convention. That legal standard should not be confused with the geographic concept "landlocked" in the sense of totally or nearly totally enclosed. As demonstrated below, the "landlocked" requirement of the semicircle test means half or more than half enclosed, and not "completely" enclosed. That standard traces back to the proposal of the United States at the Hague Conference, where the semicircular method was first proposed. This method

> took into account the extent to which an embayment penetrated the land area. 1 *Shalowitz*, at 34.

The discussion by Shalowitz at 34 *et seq.* convincingly demonstrates that a possible geographic meaning of completely "landlocked" in the sense of an "O"-shaped identation with a small mouth or hole in the "O" was never intended.

Shalowitz has so well presented this matter that we simply reproduce the remarks and illustrative figures from 1 *Shalowitz* 34 *et seq.*

Note especially the concluding sentence that an exact semicircular shape would constitute inland waters.

The guiding principle of the method can best be illustrated by reference to figure 3.[32] Suppose several hypothetical coastal indentations be considered, ranging from a completely landlocked bay at *A*, which would be the ideal bay, to a slight curvature in the coast, as at *B*, all based on a circle of fixed diameter. The circle is adopted as the theoretical bay because it is the simplest of geometric figures that simulates a bay in nature. The bay terminating at *A* would be the extreme of a closed bay, being almost completely within the surrounding land area, and would be without question inland waters. The indentation at *B*, on the other hand, is so slight in relation to the full circle, as to be almost wholly without the land area. It would be the extreme of an open bay, and would without doubt be outside of the inland waters. In passing from *A*, the closed bay, to *B*, the open bay, there will be indentations that are more within the land area than without, such as at *D*, and there will be indentations that are more without the land area than within, such as at *E*. There will be one indentation, *C*, at the half-way point, which will be just as much within the land as without. This is the bay formed by the semicircle whose diameter is the distance between its headlands. (It is shown as an inset in the lower right-hand corner of the figure.) It will be the theoretical bay which is on the borderline between an open and a closed bay. This gives a yardstick for determining the status of a coastal indentation. Since bays in nature are seldom exactly circular, recourse is had to the theory of equivalence and the rule adopted

[32] Graphic illustrations related to this discussion appear on Figure R-15.

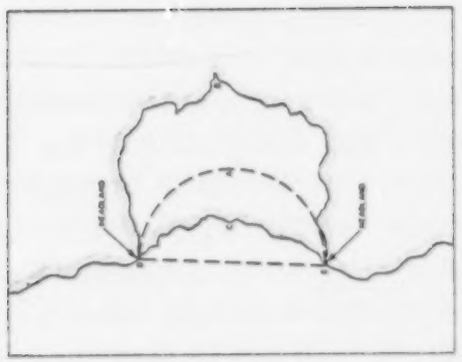


FIGURE 4.—The semicircular rule applied (United States proposal).

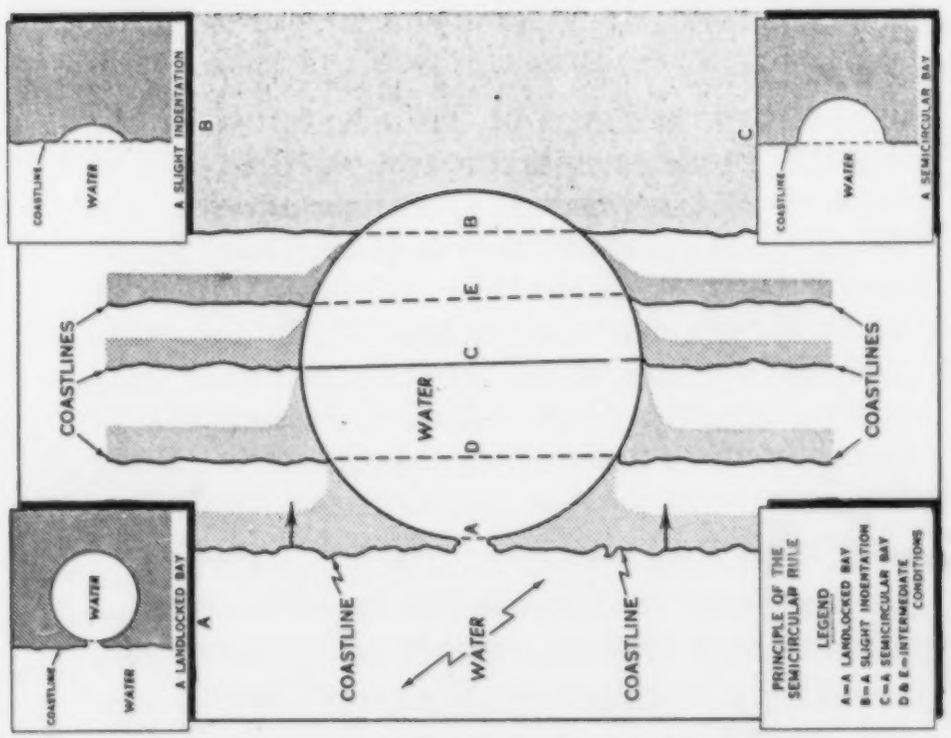


FIGURE 3.—Principle of the semicircular rule for determining the status of an indentation (inland waters or open sea).

Figure R-15. Figures 3 and 4, 1 *Shalowitz* 35, at 37.

that if the area of the bay in nature is greater than the area of the semicircle formed with the distance between the headlands as a diameter, the bay is a closed bay and the seaward boundary of inland water is the headland-to-headland line. If the area of the bay is less than the area of the semicircle, the bay is an open bay and the boundary line of inland water is the low-water mark following the sinuosities of the coast. (Area is a better unit of comparison than perimeter because the irregular form of the low-water line tends to lengthen unduly the latter.)

The application of the semicircular principle to a coastline is illustrated in figure 4. Curve *A* is a semicircle whose diameter is the line *DE* joining the two headlands of the indentation. If the shoreline of the indentation, whose status is to be determined, is curve *B*, it is readily apparent that area *DBE* is greater than area *DAE*. The indentation is therefore a closed bay and would be part of the inland waters of a country. But if the shoreline of the indentation is curve *C*, then area *DCE* is less than area *DAE* and the indentation is an open bay and outside of the inland waters. If the area is exactly equal to the semicircle, the indentation should be regarded as inland waters.

This is what "landlocked" legally means—an indentation with an area that is half or more enclosed, not one which is "completely landlocked" in the complete, geographic sense. At page 218 *et seq.*, Shalowitz makes perfectly plain that his analysis of Secs. 42 and 421 (quoted above) related to the definition of a bay under Article 7(2) of the Convention, and that the semicircle test further defines "landlocked":

(a) *Definition of Bay.*—Paragraph 2 of Article 7 defines a bay as "a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain landlocked waters and constitute more than a mere curvature of the coast." This sets forth the important concept of landlocked waters, or waters situated within the body of the land, for an indentation to qualify as a bay. But of itself it provides no criteria for determining how landlocked an indentation must be in order to remove it from the category of a mere curvature. In effect, it would be little better than the "Configuration and characteristics" rule promulgated by the tribunal in the North Atlantic Coast Fisheries Arbitration (*see* Part 1, 411).

To make the definition more specific, a second criterion was added in paragraph 2, namely: "An indentation shall not, however, be regarded as a bay unless its area is as large as or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation." This is the semicircular rule, the genesis and development of which has been previously discussed (*see* Part 1, 42, 421).

In the application of the semicircular rule to an indentation containing pockets, coves, or tributary waterways, the area of the whole indentation (including pockets, coves, etc.) is compared with the area of a semicircle. If the indentation meets the test, a closing line is drawn across the headlands. But if it fails to satisfy the test and the indentation becomes open sea, the semicircular rule should still be applied to any of the tributary waterways for the purpose of determining

their status as inland waters. 1 *Shalowitz*, at 218-20.

Monterey Bay — An Essentially Semicircular Indentation

Monterey Bay presents ultimate proof of the principle that an essentially semicircular configuration that satisfies the semicircle area test meets the "landlocked" criterion of Article 7(2). While that bay's 19.24 mile wide mouth is less than the 43 mile mouth of Ascension Bay, Moray Firth's 73 mile wide mouth makes such difference insignificant, as will be confirmed by an examination of New Zealand's practice (acquiesced in by the United States) concerning Hawke Bay.

First, we point to the configuration of Monterey Bay compared to a semicircle. See Figure R-16, a reproduction of a portion of a Monterey Bay published chart with a semicircle drawn across the Court recognized mouth which conveys the simple fact that Monterey Bay is essentially semicircular in appearance. Note that the land even intrudes into the inner part of the semicircle. This also demonstrates the validity of Shalowitz's analysis that "equivalence" underlies the landlocked test. It is the *average* area of penetration into the land. At Monterey Bay, the Monterey Harbor area, for example, at the side of the indentation helped make up the total bay area to overcome the shortage caused by the slight depth of penetration at the center of the bay; but if the central penetration had been deeper and the lateral lesser, the central could have

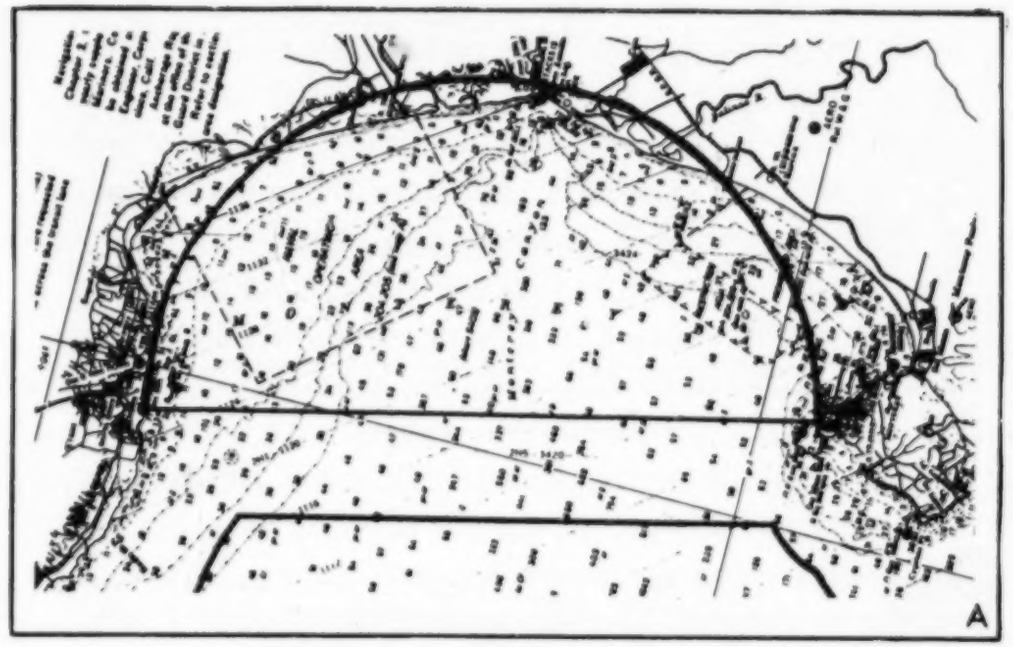


Figure R-16. Monterey Bay mouth with semicircle and three-mile projection. Note the essentially semicircular shape of Monterey Bay and that part of its shoreline lies within the semicircle.

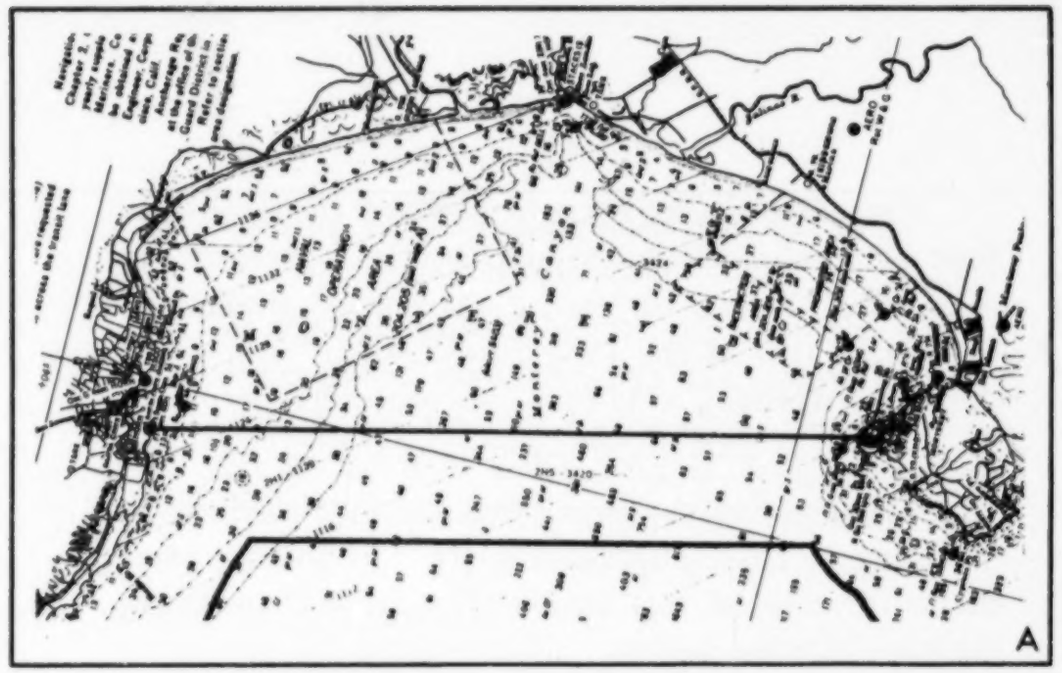
furnished equivalent penetration to compensate for the lack of lateral penetration (to the sides). It is immaterial if the total area is made up of a subsidiary geographic feature such as Monterey Harbor (the distinct cove to the right in Figure R-16). Note that here the California Monterey Bay result is opposed by Dr. Hodgson who argues that subsidiary features are to be excluded from consideration.

An understanding of the shape factors of Monterey Bay and other recognized bays makes some United States arguments wither away as morphologically illogical. The government would eliminate from consideration penetrations deep enough and sharp enough to

be identified as separate geographic features within an outer bay. The remaining "generalized" shoreline would then be said to lack sufficient deepness and sharpness to be deemed a bay. Only those bays which *ab initio* lacked deep, sharp, subfeatures would have their total configuration considered. Naturally, such bays would be assured of lacking deepness and sharpness of penetration and could be rejected. Thus, the United States, its employees' subjectivity unfettered by law, could do as it pleases with State and foreign maritime boundaries. Louisiana submits that neither the Courts of this nation nor any international tribunal would be deluded by such geographic "heads I win, tails you lose" reasoning.

Hawke Bay — Monterey Bay Comparison

Examination of any large, published map of the New Zealand coast will reveal a bay known as Hawke Bay. Inspection or scaling of published charts shows a mouth in excess of 41 nautical miles for Hawke Bay. See *e.g.*, New Zealand Chart 220, published at the Hydrographic Branch, Navy Office, New Zealand (1966). That published chart shows the internal waters, territorial sea, and 12 mile fishing zone of New Zealand as prescribed by New Zealand's Territorial Sea and Fishing Zone Act of 1965. Portions of that chart showing Hawke Bay and legend material explanatory of the shading appear in Figure R-17 which compares the shape of Monterey Bay and Hawke Bay. Hawke Bay is very similar to the essentially semicircular shape of Monterey Bay.



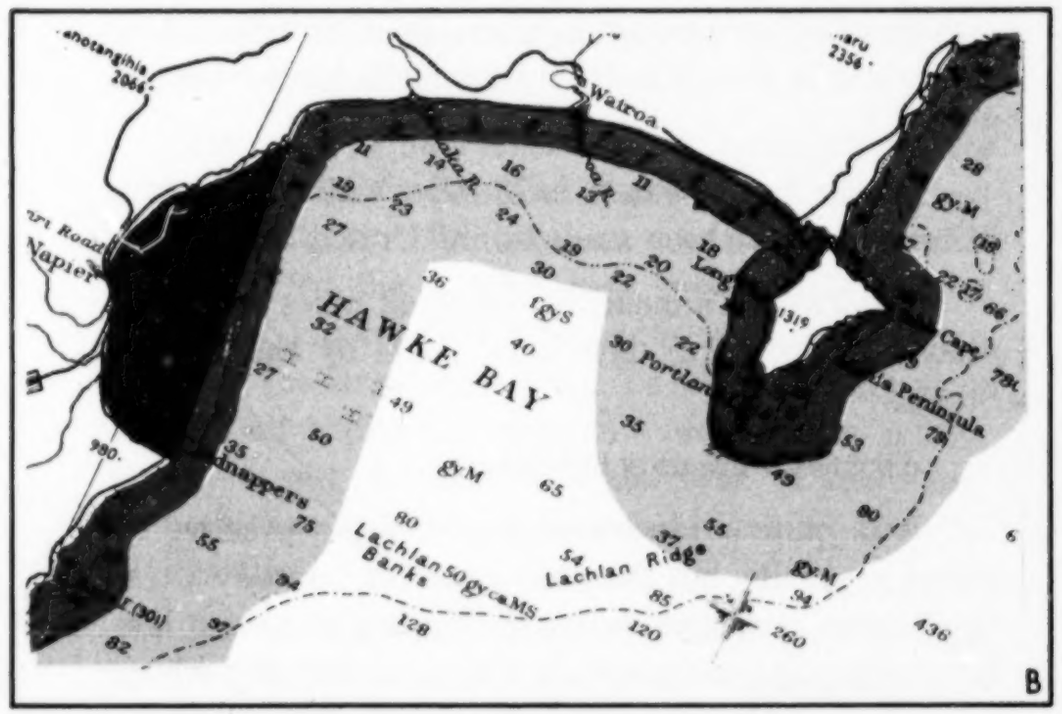

Watroa
HAWKE BAY
Napier
Portland
Cape
Lachlan Ridge
Lachlan Banks
Internal Waters
Territorial Sea
Fishing Zone
Chart showing the internal waters, territorial sea and fishing zone of New Zealand, as prescribed by the Territorial Sea and Fishing Zone Act 1965.
This chart is illustrative only; a definitive series of charts of the largest scale is deposited with the Hydrographer of the Royal New Zealand Navy.
B

Figure R-17. Comparison of the configuration of (A) Monteray Bay, California with (B) Hawke Bay, New Zealand. Sources of maps: (A) U. S. Exh. 416-D (tr. 6427), Chart #5402 (B) N.Z. 220, published at the Hydrographic Branch, Navy Office (New Zealand), January 1966 with descriptive legend material reproduced above.

From Cape Kidnappers to Portland Island is more than 41 nautical miles, and so a 24-mile line was drawn in front of the city of Napier, an obvious application of Article 6(c) of the 1965 New Zealand Act, which called for drawing a 24-mile line enclosing the maximum extent of area if the bay mouth exceeded 24 miles.

The New Zealand legislation and published charts depicting its official application are to be found in most major libraries of this nation. The State Department is aware of these claims.

Hawke Bay's mouth is in excess of 41 miles wide. No protest is known to have been made by the United States.

Moray Firth's mouth is 73 miles wide. No protest is known to have been made by the United States.

The Thames's mouth is about 43 miles wide. No protest is known to have been made by the United States.

All cases were duly publicized.

It is quite evident that not only the practice of States generally, but the practice of the United States, has been to recognize claims to bays which have a less favorable configuration than Ascension Bay and which are as large or larger at the mouth. It is only in domestic litigation, where it is in the government's monetary interest to claim otherwise, that contrary "subjective" opinions are ventured by a State Department expert. The Special Master was not impressed by this effort on behalf of the United States.

Closing Line of Ascension Bay as an Overlarge Bay

The Special Master determined that the outermost closing line of Ascension Bay as an overlarge bay was a straight line between the tip of the eastern Belle Pass jetty on the west and the tip of the east jetty at Southwest Pass on the east, and recognized that there were other more inland closing lines exceeding 24 miles. (Report, at 45).

Other closing lines could be selected which would satisfy the Convention as an overlarge bay as shown by Figure R-18.

Figure R-18 does not reflect all tributary waters evidenced from large-scale charts examined. Indeed lines tested by Mr. Whitaker, as a witness for Louisiana, satisfied the test by such substantial margins that Mr. Whitaker did not bother to measure all tributaries on the large-scale chart. Tr. 3968. If such were done or all additional area now eroded were added, semicircle test satisfaction would even be more pronounced than the data of Louisiana Exhibit 104 (tr. 2818) indicate.

The United States does not contest the fall back 24-mile line between coordinates X = 2,406,890, Y = 189,733 and X = 2,550,402, Y = 216,158.

We respectfully suggest that the above discussions demonstrate that there is no merit in United States' effort to overrule the findings of fact by the Special Master that Ascension Bay is an overlarge bay. This ruling of the Special Master should be sustained.

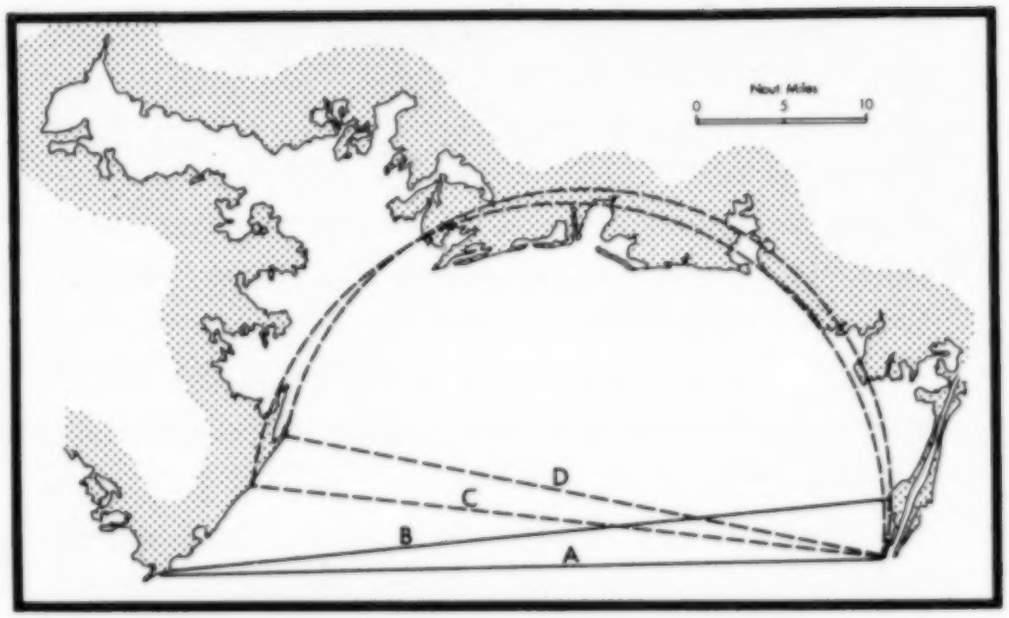


Figure R-18. Ascension-Barataria Bay (from La. Exh. 104, tr. 2818) showing locations of two possible overlarge bay closures (C and D) landward of those shown on La. Exh. 104 (A and B). Lines C and D enclose waters even more landlocked than those behind lines A and B and would even more obviously satisfy semicircle test requirements.

CONCLUSION

Louisiana respectfully urges that the three exceptions filed by the United States should be overruled.

Respectfully submitted,

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PROOF OF SERVICE

I, the Attorney General for the State of Louisiana, certify that copies of this reply brief have been properly served on the_____day of January, 1975, upon the Solicitor General and the Attorney General of the United States, Department of Justice, Washington, D. C. 20530.